



# MANAGEMENT OF THE **CALIFORNIA** **STATE WATER** **PROJECT**

BULLETIN 132-14 | NOVEMBER 2015

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# **Management of the California State Water Project**

*Covers Calendar Year 2013 Activities*



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**Edmund G. Brown Jr.** *Governor*  
*State of California*

**John Laird** *Secretary for Natural Resources*  
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## Foreword

Bulletin 132-14, Management of the California State Water Project, continues the Bulletin 132 annual series begun in 1963. Bulletin 132-14 reports water supply planning, construction, financing, management, and operation activities of the State Water Project (SWP). Appendix B contains data and computations used to determine the SWP water contractors' Statements of Charges for 2015. Appendix B was previously printed and distributed to SWP water contractors to document and support calculation of contractors' annual charges.

The Bulletin discusses significant events and issues that affect SWP management and operations. The Bulletin covers the period from January 1, 2013, through December 31, 2013.

Bulletin 132-14 also discusses water supply and delivery as well as Delta resources and environmental issues, local assistance programs, power resources, recreation, and financial analysis of the SWP.

Please note that the water delivery figures listed are accurate at the time of this Bulletin 132 publication, but small volumes of water may be reclassified over time pursuant to long-term water supply contract provisions. If your research requires more current data than were available at the time of publication, please consult the most recent edition of Bulletin 132 or contact DWR staff in the State Water Project Analysis Office.



Mark W. Cowin  
*Director*



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## California Water Commission

The California Water Commission consists of nine members appointed by the Governor and confirmed by the Senate. Seven members are chosen for their expertise related to the control, storage, and beneficial use of water, and two are chosen for their knowledge of the environment. The commission advises the Director of the Department of Water Resources (DWR) on matters within DWR's jurisdiction, approves rules and regulations, and monitors and reports on the construction and operation of the State Water Project (SWP).

The roles and responsibilities of the California Water Commission are defined in the Water Code, Government Code, and Code of Civil Procedure.

The commission's SWP-specific responsibilities are to:

- conduct an annual review of the construction and operation of the SWP and report to DWR and the Legislature with any recommendations (Water Code Section 165);
- hold public hearings on all additional facilities proposed to be added to the SWP and name any new facilities (Water Code Sections 161.5 and 166); and
- adopt a resolution of necessity, and give each affected person a venue to be heard, before DWR may commence an eminent domain proceeding (Code of Civil Procedure Section 1245.210).

Commission members at the time of publication are:

Joseph Byrne (Chair)

Andrew Ball

Daniel Curtin

Paula Daniels

Joe Del Bosque (Vice-Chair)

Maria Herrera

Paula Landis

David Orth

Armando Quintero

# Acronyms and Abbreviations

## *Symbols*

**8SI** Northern Sierra 8-Station Precipitation Index

**µg/L** micrograms per liter

**µS/cm** microsiemens per centimeter

## **A**

**AB** Assembly Bill

**af** acre-feet/acre-foot

**AWMP** Agricultural Water Management Plan

## **B**

**Bay-Delta** San Francisco Bay/Sacramento-San Joaquin Delta

**Bay-Delta Estuary** San Francisco Bay/Sacramento-San Joaquin Delta Estuary

**Bay-Delta Plan** Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

**BDCP** Bay Delta Conservation Plan

**BiOp** biological opinion

## **C**

**CAISO** California Independent System Operator

**CALFED** CALFED Bay-Delta Program

**California State Parks** California Department of Parks and Recreation

**Caltrans** California Department of Transportation

**CAMAL Net** California Association of Mutual Aid Laboratories Network

**C.A.S.T.** Catch A Special Thrill

**CCTAG** Climate Change Technical Advisory Group

**CDPH** California Department of Public Health

**CEQA** California Environmental Quality Act

**CESA** California Endangered Species Act

**cfs** cubic feet per second

**CIMIS** California Irrigation Management Information System

**Corps** U.S. Army Corps of Engineers

**CVC** Cross Valley Canal

**CVP** Central Valley Project

**CWC** California Water Code

**D**

- D-1641** State Water Resources Control Board, Water Right Decision 1641  
**DCAA** 2,4-dichlorophenylacetic acid  
**DCPA** Dacthal  
**DDA** Davis-Dolwig Act  
**DFW** Department of Fish and Wildlife  
**DHCCP** Delta Habitat Conservation and Conveyance Program  
**DMCP** Delta Mercury Control Program  
**DO** dissolved oxygen  
**DOE** Division of Engineering  
**DSC** Delta Stewardship Council  
**DSM2** Delta Simulation Model 2  
**DSOD** Division of Safety of Dams  
**DWR** Department of Water Resources  
**DWSC** Deep Water Ship Channel

**E**

- EC** electrical conductivity  
**EIR** environmental impact report  
**EIS** environmental impact statement  
**EPA** U.S. Environmental Protection Agency  
**ESA** federal Endangered Species Act  
**ETO<sub>o</sub>** reference evapotranspiration

**F**

- FERC** Federal Energy Regulatory Commission  
**FRFH** Feather River Fish Hatchery  
**FRP** Fish Restoration Program

**G**

- GHG** greenhouse gas

**H**

- HEA** Habitat Expansion Agreement  
**Hg** mercury  
**Hyatt-Thermalito** Hyatt Pumping-Generating Plant and Robie Thermalito Pumping-Generating Plant

**I**

- IFDM** Integrated On-Farm Drainage Management  
**IR** Interim Renewal  
**IRWM** Integrated Regional Water Management  
**ITP** incidental take permit

**K**

**kV** kilovolt

**kWh** kilowatt hour

**L**

**LADWP** Los Angeles Department of Water and Power

**LTMS** Long-Term Management Strategy

**M**

**maf** million acre-feet

**MeHg** methylmercury

**MERP** Mercury Exposure Reduction Program

**mg/L** milligrams per liter

**MIDS** Morrow Island Distribution System

**MME** Mercury Monitoring and Evaluation

**MRTU** Market Redesign and Technology Upgrade

**mS/cm** millisiemens per centimeter

**MW** megawatt

**MWh** megawatt hour(s)

**MWQI** Municipal Water Quality Investigations

**MWQP** Municipal Water Quality Program

**MWT** McCormack-Williamson Tract

**N**

**NDFCERP** North Delta Flood Control and Ecosystem Restoration Project

**NDOI** Net Delta Outflow Index

**NEPA** National Environmental Policy Act

**NERC** North American Electric Reliability Corporation

**NOAA Fisheries** National Marine Fisheries Service

**NVE** NV Energy

**O**

**OMP&R** operations, maintenance, power, and replacement

**OM&R** operations, maintenance, and replacement

**P**

**PAO** Public Affairs Office

**PG&E** Pacific Gas & Electric Company

**PSP** proposal solicitation package

**Q**

**QA/QC** Quality Assurance/Quality Control Program  
**QSA** Quantification Settlement Agreement

**R**

**Reclamation** Bureau of Reclamation  
**RETI** Renewable Energy Transmission Initiative  
**R&FWE** Recreation and Fish and Wildlife Enhancement  
**RIMPR** Renewable Integration Market and Product Review  
**RM** River Mile  
**RPA** reasonable and prudent alternative  
**RRR** Red Rock Ranch  
**RRSDS** Roaring River Slough Distribution System  
**RST** rotary screw trap  
**RTDF-CP** Real Time Data and Forecasting Comprehensive Program  
**RWQCB** Regional Water Quality Control Board

**S**

**Sacramento Valley 40-30-30 Index** Sacramento Valley Water Year Hydrologic Classification  
**San Joaquin Valley 60-20-20 Index** San Joaquin Valley Water Year Hydrologic Classification  
**SARMP** Settlement Agreement Recreation Management Plan  
**SB** Senate Bill  
**SBA** South Bay Aqueduct  
**SBX7 7** Water Conservation Act of 2009  
**SCE** Southern California Edison  
**SDG&E** San Diego Gas & Electric  
**SDIP** South Delta Improvements Program  
**SJR** San Joaquin 4 Rivers  
**SMPA** Suisun Marsh Preservation Agreement  
**SMSCG** Suisun Marsh Salinity Control Gates  
**SRCD** Suisun Resource Conservation District  
**SRR** Sacramento River Region  
**SWP** State Water Project  
**SWPAO** State Water Project Analysis Office  
**SWRCB** State Water Resources Control Board

**T**

**TLR** Tulare Lake Region

**U**

**USFWS** U.S. Fish and Wildlife Service

**W**

**WCD** water conservation district

**WD** water district

**WET** Water Education for Teachers

**WQCP** water quality control plan

**Y**

**Yuba Accord** Lower Yuba River Accord

## SWP Long-term Water Contractors

The State Water Project long-term water supply contractors are listed below, followed by shortened forms of their names that are used in Bulletin 132.

|  |                 |
|--|-----------------|
| Alameda County Flood Control and Water Conservation District, Zone 7 | Alameda-Zone 7  |
| Alameda County Water District  | Alameda County  |
| Antelope Valley-East Kern Water Agency                               | AVEK            |
| Castaic Lake Water Agency  | Castaic Lake    |
| City of Yuba City  | Yuba City       |
| Coachella Valley Water District                                      | Coachella       |
| County of Butte  | Butte           |
| County of Kings  | Kings           |
| Crestline-Lake Arrowhead Water Agency                                | Crestline       |
| Desert Water Agency  | Desert          |
| Dudley Ridge Water District  | Dudley Ridge    |
| Empire West Side Irrigation District                                 | Empire          |
| Kern County Water Agency   | Kern            |
| Littlerock Creek Irrigation District                                 | Littlerock      |
| The Metropolitan Water District of Southern California               | Metropolitan    |
| Mojave Water Agency  | Mojave          |
| Napa County Flood Control and Water Conservation District            | Napa            |
| Oak Flat Water District  | Oak Flat        |
| Palmdale Water District  | Palmdale        |
| Plumas County Flood Control and Water Conservation District          | Plumas          |
| San Bernardino Valley Municipal Water District                       | San Bernardino  |
| San Gabriel Valley Municipal Water District                          | San Gabriel     |
| San Gorgonio Pass Water Agency                                       | San Gorgonio    |
| San Luis Obispo County Flood Control and Water Conservation District | San Luis Obispo |
| Santa Barbara County Flood Control and Water Conservation District   | Santa Barbara   |
| Santa Clara Valley Water District                                    | Santa Clara     |
| Solano County Water Agency   | Solano          |
| Tulare Lake Basin Water Storage District                             | Tulare          |
| Ventura County Watershed Protection District                         | Ventura         |



## State Water Project Highlights

*Twitchell Island in the Delta.*



The annual Bulletin 132 series began in 1963 and reported the first deliveries of water by the new State Water Project (SWP). Bulletin 132-14, *Management of the California State Water Project*, continues this series as the fifty-second edition. It reports on SWP planning, construction, finance, management, and operations during calendar year 2013. The SWP is operated and maintained by the California Department of Water Resources (DWR).

The SWP is one of the world's largest water, power, and conveyance systems. In the past decade it has conveyed an annual average of 2.9 million acre-feet (maf) of water. SWP facilities—pumping and power plants; reservoirs, lakes, and storage tanks; canals, tunnels, and pipelines—capture, store, and convey water to public water agencies and local water districts.

## Drought Response

For many parts of California, 2013 was the driest year on record. In anticipation of another dry year in 2014, DWR appointed a Drought Manager and Deputy Drought Manager in December. Also in December, DWR conducted a drought preparedness workshop, one of the seven DWR drought preparedness events held throughout California.

## Water Supply Contract Extension Program

On May 1, 2013, DWR met with SWP contractors and the public to begin negotiating the extension of the water supply contracts. The extension will allow DWR to continue to sell bonds with 30-year terms, ensuring the debt service on these bonds remains affordable to SWP contractors and their water customers.

## Yearly Activities Summary

### 2013 Precipitation and Water Storage

Water stored and delivered by the SWP conservation and transportation facilities originates from rainfall and snowmelt in Northern and Central California watersheds, where most of the State's precipitation

occurs. DWR monitors and records annual precipitation and runoff during each water year, which begins on October 1 and ends on September 30.

### Precipitation and Mountain Snowpack in Water Year 2012–2013

California experienced below-average rainfall and mountain snowpack during water year 2012–2013. The State received precipitation at 79 percent of average in 2012–2013, compared to 77 percent of average in water year 2011–2012. The Northern Sierra 8-Station Precipitation Index finished the water year with 44.3 inches of precipitation, which was 89 percent of average. The statewide average snow water equivalent, based on snow sensors, reported for April 1, was 13.2 inches, or 47 percent of average.

### River Runoff

Statewide river runoff totaled 60 percent of average in the 2012–2013 water year. Runoff in the Sacramento River Region, the San Joaquin 4 Rivers, and the Tulare Lake Region was 67, 51, and 36 percent of average, respectively.

### Water Supply Indices

The Sacramento Valley Water Year Hydrologic Classification and the San Joaquin Valley Water Year Hydrologic Classification

were “dry” and “critical,” respectively, based on all observed data for water year 2012–2013.

### **Water Year 2012–2013 Statewide Storage Totals**

For water year 2012–2013, monthly storage totals for the major Sierra reservoirs began at 95 percent of average following a dry 2011–2012 water year. The percent of average storage increased through December, which ended at 110 percent of average. Then, the average decreased each month through July, which ended with 79 percent of average. August and September also ended with 79 percent of average.

### **2013 Storage Totals in Major SWP Reservoirs**

End-of-year storage on December 31, 2013, in major SWP reservoirs and the State’s share of joint-use reservoirs was 2.2 maf or 41 percent of maximum storage, compared to 2.3 maf or 44 percent of maximum storage at the end of 2012. The average end-of-month total storage in major SWP reservoirs for 2013 was 3.1 maf.

### **Diversions from the Delta**

In 2013, the SWP diverted 1,814,837 acre-feet (af) at Banks Pumping Plant. There was 19,311 af of Cross Valley Canal water and 37,953 af of Central Valley Project (CVP) water wheeled at Banks Pumping Plant by DWR during 2013.

Maximum daily Delta exports occurred August 25 at 23,631 af. Combined SWP and CVP monthly Delta exports in 2013 varied from a low of 105,901 af in April, to a high of 608,691 af in August. Delta exports totaled approximately 3.46 maf in 2013.

For more information, see Chapter 8, Water Supply.

## **2013 Water Supplies, Contracts, and Deliveries**

### **2013 Water Deliveries**

DWR approved delivery of 1.25 maf on November 29, 2012, resulting in initial Table A amounts of 30 percent of most SWP water contractor requests. DWR increased the 2013 Table A amounts to 1.46 maf, for a final allocation of 35 percent, on March 22, 2013. For more information on changes in Table A amounts that were approved by DWR, see Chapter 9, Water Contracts and Deliveries.

In 2013, 3,371,000 af of SWP and non-SWP water was delivered to 29 long-term SWP water contractors and 23 other agencies.

The portion delivered to the SWP water contractors was 2,108,416 af, categorized as follows:

- 1,084,692 af of Table A water;
- 54,115 af of transferred Table A water;
- 32,329 af of exchanged Table A water;
- 98,732 af of Pool A water;
- 350,555 af of carryover water;
- 326,050 af recovered from water banks and delivery of backup water;
- 1,752 af of settlement water;
- 2 af of SWP water for recreation and fish and wildlife;
- 41,048 af of 2013 Yuba Accord Dry Year Purchase Program water;
- 8,048 af of local water;
- 67,410 af of Other Temporary Transfer Programs;
- 30,299 af of general conveyance water;
- 842 af of operations exchange water;
- 1,085 af of transfer water; and
- 11,457 af of permit water.

The remaining portion was delivered to 23 non-SWP agencies and

totaled 1,262,584 af, which was categorized accordingly:

- 1,192,836 af of local water;
- 1,639 af of SWP water for recreation and fish and wildlife; and
- 68,109 af delivered to satisfy agreements between the SWP and CVP.

Table H-1 shows SWP water deliveries by category for 1962 through 2013.

For more information, see Chapter 9, Water Contracts and Deliveries.

## Power Resources

In 2013, DWR sold 1.35 million megawatt hours (MWh) of energy for a total of \$94.07 million. These sales included 936,975 MWh of energy with revenue of \$42.32 million transacted through WSPP and sold to 11 marketers. They also included 413,462 MWh with revenue of \$18.39 million sold to long-term contractors, and \$33.35 million connected to bilateral trades with the California Independent System Operator (CAISO). DWR also received \$49.66 million in revenues from capacity and other energy-related services. This value includes, among other things, \$47.44 million for ancillary services transactions made through CAISO. It also includes \$369,135 for ancillary service fees collected from the U.S. Department of Energy, Western Area Power Administration, associated with the June 27, 2012, contract with DWR for CAISO Scheduling Coordinator Services.

The sidebar, State Water Project Power Generation and Consumption in 2013, summarizes amounts of power generated and consumed by the SWP. For detailed information, see Chapter 10, Power Resources.

## Oroville Facilities Relicensing

On January 26, 2005, DWR filed an application with the Federal Energy

Regulatory Commission (FERC) requesting a new license for the Oroville Facilities (FERC Project No. 2100). The existing 50-year hydropower license expired January 31, 2007, and, until a new license is issued, FERC is issuing annual licenses. A partial list of SWP facilities that will be subject to the new license terms and conditions is available in Chapter 10, Power Resources.

A number of significant events associated with Oroville Facilities relicensing occurred in 2013. For details, see Chapter 3, Environmental Programs; Chapter 6, Legislation and Litigation; Chapter 10, Power Resources; and Chapter 13, Recreation.

## Financial Analysis

In 2013, DWR continued to pay bondholders as scheduled. The SWP was financially viable and was indirectly paid for by the approximately 25 million water users served by the project. Direct payment was through the 29 long-term water contractors. In 2013, the SWP handled approximately \$1.02 billion in revenues and \$1.02 billion in expenses. The 2013 Income Statement for the State Water Project sidebar presents a summary of the year's revenues and expenses. For detailed information, see Chapter 14, Financial Analysis.

## Engineering, Construction, and Real Estate

In 2013, engineering, construction, and real estate work to enhance, expand, repair, and protect the SWP and other facilities within the State continued. Significant projects included the South Bay Aqueduct enlargement, expansion of the South Bay Pumping Plant, Perris Dam remediation, and the East Branch Extension Phase I Improvements and Phase II projects.

DWR worked on 58 construction contracts in 2013. Projects included fire clean-up, pipeline repair, control system upgrades,

STATE WATER PROJECT HIGHLIGHTS

Table H-1 SWP Water Delivered by Category, 1962–2013 (acre-feet)

| Year         | Table A Water            |                   |                            | Article 21/Unscheduled   |                  | Other SWP Water Deliveries |                                       |                                   | Total Deliveries   |
|--------------|--------------------------|-------------------|----------------------------|--------------------------|------------------|----------------------------|---------------------------------------|-----------------------------------|--------------------|
|              | Municipal and Industrial | Agricultural      | Total Table A <sup>a</sup> | Municipal and Industrial | Agricultural     | Other Water <sup>b</sup>   | Feather River Diversions <sup>c</sup> | Fish & Wildlife/ Recreation Water |                    |
| 1962         | 0                        | 0                 | 0                          | 0                        | 0                | 9,704                      | 7,499                                 | 0                                 | 17,203             |
| 1963         | 0                        | 0                 | 0                          | 0                        | 0                | 13,212                     | 16,049                                | 0                                 | 29,261             |
| 1964         | 0                        | 0                 | 0                          | 0                        | 0                | 21,743                     | 17,891                                | 0                                 | 39,634             |
| 1965         | 0                        | 0                 | 0                          | 0                        | 0                | 35,985                     | 27,425                                | 0                                 | 63,410             |
| 1966         | 0                        | 0                 | 0                          | 0                        | 0                | 59,599                     | 33,361                                | 0                                 | 92,960             |
| 1967         | 5,563                    | 5,791             | 11,354                     | 0                        | 0                | 45,225                     | 24,639                                | 0                                 | 81,218             |
| 1968         | 86,541                   | 85,168            | 171,709                    | 10,000                   | 111,534          | 1,214                      | 903,367                               | 0                                 | 1,197,824          |
| 1969         | 63,956                   | 129,064           | 193,020                    | 0                        | 72,397           | 8,692                      | 832,454                               | 0                                 | 1,106,563          |
| 1970         | 83,415                   | 150,578           | 233,993                    | 0                        | 131,848          | 25,401                     | 804,320                               | 0                                 | 1,195,562          |
| 1971         | 93,776                   | 263,564           | 357,340                    | 0                        | 294,581          | 35,438                     | 825,886                               | 8                                 | 1,513,253          |
| 1972         | 186,796                  | 425,005           | 611,801                    | 0                        | 422,322          | 53,848                     | 875,529                               | 6,489                             | 1,969,989          |
| 1973         | 297,497                  | 395,391           | 692,888                    | 0                        | 294,916          | 29,540                     | 851,285                               | 1,155                             | 1,869,784          |
| 1974         | 423,982                  | 450,093           | 874,075                    | 0                        | 412,453          | 31,493                     | 963,956                               | 2,118                             | 2,284,095          |
| 1975         | 670,492                  | 553,498           | 1,223,990                  | 356                      | 620,329          | 46,995                     | 924,696                               | 3,377                             | 2,819,743          |
| 1976         | 631,876                  | 741,126           | 1,373,002                  | 4,147                    | 547,538          | 103,546                    | 1,018,653                             | 1,745                             | 3,048,631          |
| 1977         | 354,930                  | 218,966           | 573,896                    | 0                        | 0                | 410,991                    | 624,497                               | 1,111                             | 1,610,495          |
| 1978         | 782,625                  | 529,740           | 1,312,365                  | 0                        | 16,215           | 177,245                    | 836,864                               | 1,691                             | 2,344,380          |
| 1979         | 692,888                  | 711,404           | 1,404,292                  | 0                        | 646,830          | 431,693                    | 933,067                               | 1,766                             | 3,417,648          |
| 1980         | 726,545                  | 784,946           | 1,511,491                  | 52,200                   | 350,017          | 40,269                     | 925,750                               | 2,131                             | 2,881,858          |
| 1981         | 1,053,273                | 835,852           | 1,889,125                  | 18,920                   | 889,508          | 283,310                    | 993,785                               | 4,688                             | 4,079,336          |
| 1982         | 916,014                  | 822,042           | 1,738,056                  | 140                      | 214,994          | 144,267                    | 819,586                               | 4,646                             | 2,921,689          |
| 1983         | 482,749                  | 701,370           | 1,184,119                  | 0                        | 13,019           | 172,030                    | 633,778                               | 7,849                             | 2,010,795          |
| 1984         | 725,799                  | 861,794           | 1,587,593                  | 3,663                    | 259,254          | 366,273                    | 891,128                               | 7,040                             | 3,114,951          |
| 1985         | 983,341                  | 929,424           | 1,912,765                  | 9,638                    | 292,206          | 474,417                    | 924,049                               | 4,033                             | 3,617,108          |
| 1986         | 998,611                  | 1,009,295         | 2,007,906                  | 2,595                    | 21,755           | 177,176                    | 843,040                               | 3,865                             | 3,056,337          |
| 1987         | 1,079,983                | 1,033,932         | 2,113,915                  | 6,949                    | 107,958          | 375,810                    | 882,301                               | 7,672                             | 3,494,605          |
| 1988         | 1,308,071                | 1,068,302         | 2,376,373                  | 0                        | 0                | 520,375                    | 884,877                               | 4,889                             | 3,786,514          |
| 1989         | 1,602,543                | 1,251,204         | 2,853,747                  | 0                        | 0                | 474,559                    | 830,500                               | 8,135                             | 4,166,941          |
| 1990         | 1,876,072                | 706,079           | 2,582,151                  | 0                        | 90               | 424,697                    | 875,099                               | 9,262                             | 3,891,299          |
| 1991         | 536,669                  | 12,444            | 549,113                    | 3,521                    | 0                | 543,582                    | 565,395                               | 4,879                             | 1,666,490          |
| 1992         | 955,687                  | 455,112           | 1,410,799                  | 1,156                    | 0                | 166,992                    | 613,978                               | 2,605                             | 2,195,530          |
| 1993         | 1,069,258                | 1,243,978         | 2,313,236                  | 0                        | 0                | 256,853                    | 822,589                               | 2,609                             | 3,395,287          |
| 1994         | 1,134,992                | 614,359           | 1,749,351                  | 48,150                   | 64,475           | 236,739                    | 874,018                               | 8,200                             | 2,980,933          |
| 1995         | 801,570                  | 1,165,523         | 1,967,093                  | 17,984                   | 46,346           | 85,560                     | 860,077                               | 2,575                             | 2,979,635          |
| 1996         | 1,143,638                | 1,371,186         | 2,514,824                  | 12,091                   | 16,556           | 252,346                    | 1,005,148                             | 3,907                             | 3,804,872          |
| 1997         | 1,220,200                | 1,040,183         | 2,260,383                  | 2,814                    | 18,618           | 322,000                    | 993,211                               | 4,146                             | 3,601,172          |
| 1998         | 865,795                  | 860,724           | 1,726,519                  | 9,982                    | 10,306           | 127,405                    | 872,738                               | 2,108                             | 2,749,058          |
| 1999         | 1,405,311                | 1,333,592         | 2,738,903                  | 61,191                   | 96,879           | 85,312                     | 1,108,672                             | 4,324                             | 4,095,281          |
| 2000         | 1,946,451                | 1,222,485         | 3,168,936                  | 170,302                  | 138,483          | 342,688                    | 1,085,886                             | 4,096                             | 4,910,391          |
| 2001         | 1,171,421                | 407,870           | 1,579,291                  | 14,971                   | 33,174           | 524,768                    | 1,077,997                             | 2,942                             | 3,233,143          |
| 2002         | 1,849,052                | 716,578           | 2,565,630                  | 15,478                   | 27,637           | 241,268                    | 1,131,880                             | 3,712                             | 3,985,605          |
| 2003         | 2,156,072                | 787,170           | 2,943,242                  | 23,019                   | 36,809           | 249,884                    | 1,006,995                             | 2,862                             | 4,262,811          |
| 2004         | 1,951,217                | 643,509           | 2,594,726                  | 103,890                  | 114,606          | 453,603                    | 1,171,835                             | 2,887                             | 4,441,547          |
| 2005         | 1,923,222                | 904,034           | 2,827,256                  | 186,787                  | 544,296          | 92,858                     | 1,074,706                             | 1,515                             | 4,727,418          |
| 2006         | 1,973,662                | 999,687           | 2,973,349                  | 293,358                  | 327,981          | 143,774                    | 1,094,944                             | 3,628                             | 4,837,034          |
| 2007         | 1,570,857                | 510,040           | 2,080,897                  | 185,825                  | 124,148          | 713,993                    | 1,193,237                             | 2,581                             | 4,300,681          |
| 2008         | 1,014,147                | 224,012           | 1,238,159                  | 2,729                    | 0                | 842,893                    | 1,087,669                             | 2,778                             | 3,174,228          |
| 2009         | 883,760                  | 348,993           | 1,232,753                  | 6,032                    | 0                | 798,348                    | 1,125,147                             | 2,047                             | 3,164,327          |
| 2010         | 1,421,463                | 509,466           | 1,930,929                  | 7,158                    | 347              | 778,035                    | 978,172                               | 1,167                             | 3,695,808          |
| 2011         | 1,871,986                | 975,586           | 2,847,572                  | 207,307                  | 213,384          | 413,160                    | 1,028,542                             | 1,593                             | 4,711,558          |
| 2012         | 1,844,350                | 714,349           | 2,558,699                  | 0                        | 0                | 401,523                    | 1,047,832                             | 1,609                             | 4,009,663          |
| 2013         | 1,195,815                | 424,608           | 1,620,423                  | 0                        | 0                | 582,301                    | 1,166,635                             | 1,641                             | 3,371,000          |
| <b>Total</b> | <b>48,033,933</b>        | <b>32,149,116</b> | <b>80,183,049</b>          | <b>1,482,353</b>         | <b>7,533,809</b> | <b>13,650,632</b>          | <b>43,012,634</b>                     | <b>154,081</b>                    | <b>146,016,558</b> |

<sup>a</sup> Includes Table A, Table A transfers, Table A exchanges, Carryover, and Pool Water.

<sup>b</sup> Includes water conveyed for SWP and non-SWP water contractors.

<sup>c</sup> Includes amounts of water diverted according to various water rights agreements.

## State Water Project Power Generation and Consumption in 2013

| Power Generation and Consumption                                 | Megawatt Hours   |
|--|------------------|
| Energy generation by SWP facilities                              | 3,068,539        |
| Energy sources and firm purchases under agreements and exchanges | 3,604,135        |
| <b>Total Energy Available to the SWP</b>                         | <b>6,672,674</b> |
| Energy sales   | (936,975)        |
| <b>Net SWP Power Consumption<sup>a</sup></b>                     | <b>5,735,699</b> |

<sup>a</sup> Totals may not sum due to rounding.

and recreation and maintenance facility improvements at dam and reservoir sites.

DWR processed a net total of \$2.76 million in payments in 2013 in support of right-of-way activities required for the construction, operation, and maintenance of the SWP. DWR also conducted real estate activities related to SWP acquisitions, temporary permits, property management, and appraisals.

For more information, see Chapter 12, Engineering, Construction, and Real Estate.

### Delta Resources and Environmental Issues

#### *Delta Stewardship Council*

The *Delta Plan* was adopted by the Delta Stewardship Council on May 16, 2013. It became effective with legally enforceable regulations on September 1, 2013.

### *Bay Delta Conservation Plan*

In August 2013, DWR announced changes to the proposed water conveyance tunnels. These changes included decreasing the intermediate forebay from 750 to 40 acres and realigning a segment of the tunnels to the east to shift construction impacts from private to public lands. The purpose of these changes was to reduce the effects of the project on Delta residents. In total, the proposed changes would decrease the permanent water conveyance project footprint from 3,654 acres to 1,851 acres.

On December 13, 2013, the draft Bay Delta Conservation Plan and its associated environmental impact report/environmental impact statement were released for public comment.

### *Fish Science Building*

Construction of a Fish Science Building was near completion at Skinner Fish Facility in

## 2013 Income Statement for the State Water Project

| <b>Revenues</b>   | <b>Thousands of Dollars</b> |
|---|-----------------------------|
| Water Contract Payments                                 | 1,080,088                   |
| Revenue Bond Cover Adjustments                          | (47,054)                    |
| Rate Management Adjustments                             | (40,470)                    |
| Other Revenues  | 30,122                      |
| <b>Total Operating Revenues</b>                         | <b>1,022,686</b>            |
| <br>  |                             |
| <b>Expenses</b>   |                             |
| Project Operations, Maintenance, Power, and Replacement | 684,805                     |
| Deposits to Reserves                                    | 47,112                      |
| Water Bond Principal                                    | 175,213                     |
| Water Bond Interest                                     | 115,556                     |
| <b>Total Operating Expenses and Debt Service</b>        | <b>1,022,686</b>            |
| <b>Net System Revenues</b>                              | <b>0</b>                    |

late 2013. The facility will be used for various fishery studies needed to meet regulatory requirements of the biological opinions and incidental take permit for long-term operation of the SWP and CVP.

### ***Suisun Marsh Plan***

On April 21, 2013, the Bureau of Reclamation and the U.S. Fish and Wildlife Service signed the record of decision for the *Suisun Marsh Habitat Management, Preservation, and Restoration Plan*.

For more information about Delta resources and environmental issues, see Chapter 2, Delta Resources; Chapter 3, Environmental

Programs; and Chapter 4, Water Quality Programs.

### **Recreation**

In 2013, SWP facilities supported an estimated 4.0 million recreation days of use, down nearly 3 percent from 2012 and 2 percent from 2011. Most SWP recreation use was concentrated at the lakes and major reservoirs, with 37 percent occurring in the Oroville Field Division and 45 percent occurring in the Southern Field Division. For further information, see Chapter 13, Recreation.

## SWP Security Measures

Security and protection of the SWP remain primary goals for DWR. SWP facilities are closely monitored, and DWR staff are vigilant in maintaining a secure environment. Security patrols of SWP facilities are frequent and ongoing, and plans are in place to address potential or actual acts of terrorism. Security system improvements continue in conjunction with the Bureau of Reclamation and other federal and State agencies.

## SWP Milestones through the Decades

### 50 Years Ago—1963

Construction began on San Luis Dam and various other major features of the joint-use facilities of the SWP and the federal CVP.

Construction began on Banks Pumping Plant in the South Delta, the starting point of the California Aqueduct.

By the end of 1963, a total of 30 water supply contracts had been signed.

### 40 Years Ago—1973

Initial facilities of the SWP were completed.

Three new fishing access sites were opened to the public—Fairfax, adjacent to Fairfax Avenue in Fresno County; Avenal Gap Road, adjacent to Avenal Cutoff Road in Kings County; and Kettleman City, adjacent to Milham Avenue also in Kings County—bringing the total number of California Aqueduct fishing access sites in the San Joaquin Valley to 11.

On September 1, 1973, an initial 28-mile section of bikeway was opened to the public, extending from Pearblossom Pumping Plant south to Interstate 15 near Hesperia. Together with the 67 miles opened in 1972 between Bethany Reservoir and San Luis

Forebay, a total 95 miles of bikeway was in operation at the end of 1973.

### 30 Years Ago—1983

To better manage its power needs, DWR became a bulk power agency, making the SWP the fifth largest electric utility in California.

Record high rainfall totals were reported statewide in California for water year 1982–1983 (1983 is the wettest year on record).

### 20 Years Ago—1993

In February, the Governor declared the end of the 1987–1992 drought.

In May, the twenty-fifth anniversary of the dedication of Oroville Dam was celebrated.

DWR began construction on Phase II of the Coastal Branch in August. This pipeline project allowed SWP water to be transported to Santa Barbara and San Luis Obispo counties as a supplemental water supply.

Vista del Lago Visitors Center opened at Pyramid Lake in November.

### 10 Years Ago—2003

On March 20, the East Branch Extension Phase I was dedicated. It allowed the SWP to bring water to the communities of Redlands, Yucaipa, Banning, and Beaumont.

In May, the Monterey Settlement Agreement was executed and approved by the court, allowing the SWP to continue to operate pursuant to the Monterey Agreement while a new environmental impact report was prepared.





## Chapter 1

# The State Water Project

*Waterways and fields in the Sacramento-San Joaquin Delta.*

**T**his chapter primarily provides background on the State Water Project (SWP), including brief descriptions of SWP facilities, planning, construction, power operations, financing, contracting agencies, and the project's many uses and functions. It also provides a glimpse of California history, with a look at the processes and decisions that went into the creation of the largest state-built water project in the country.

Chapters 2 through 15 provide more detail on significant events and specific topics related to management of the SWP in calendar year 2013. At the end of the bulletin, Appendix B presents data and computations used to determine the SWP Contractors' Statements of Charges for 2015.

*Information in this chapter was contributed by the Division of Operations and Maintenance and the State Water Project Analysis Office.*

California's diverse geography contains both the highest and lowest elevations in the coterminous United States, with a resulting diversity of climate that ranges from desert to alpine to subtropical. In a typical year, some areas receive as little as 2 inches of rain, while others receive more than 100 inches. This diversity of geography and climate creates an intricate and constantly changing pattern of water supplies, which, in turn, creates enormous challenges in managing this vital resource.

## The State Water Project

Like present-day Californians, the earliest settlers faced the problem of how best to conserve, control, and deliver water. Remains of aqueducts, canals, and dams are still found near some of California's original missions. The first recorded aqueduct, built in 1770 to serve the San Diego mission, was 6 miles long. In the early twentieth century, several cities, including San Francisco and Los Angeles, built aqueducts to convey water from the Sierra Nevada to other parts of the State.

In 1951, after many years of discussion and study, the Legislature authorized construction of a water storage and supply system to capture and store rainfall and snowmelt runoff in Northern California and deliver it to areas of need throughout the State. Eight years later, the Legislature passed the Burns-Porter Act, which provided the mechanism for obtaining funds necessary to construct the initial State Water Project (SWP) facilities. In 1960, California voters approved issuance of \$1.75 billion in general obligation bonds, as authorized in the act, thereby securing funds to build the SWP. In 1962, the first water was delivered through a portion of the South Bay Aqueduct to two long-term contracting agencies in Alameda County.

Today the SWP, built, operated, and managed by the Department of Water Resources (DWR), is the largest state-built,

multipurpose, user-financed water project in the country. It was designed and built to deliver water, control flooding, generate power, provide recreational opportunities, and enhance habitat for fish and wildlife. SWP water irrigates about 750,000 acres of farmland, mainly in the southern San Joaquin Valley. Approximately 25 million of California's estimated 37 million residents benefit from SWP water.

## Precipitation and Runoff

The water stored and delivered by the SWP originates from rainfall and snowmelt runoff in Northern and Central California's watersheds, where most of the State's precipitation occurs.

Since 1968, DWR has monitored and recorded annual precipitation and runoff, because precipitation, snowpack, and the rate and amount of snowmelt help determine how much water the SWP can deliver in any given year. The DWR-designated water year is October 1 through September 30.

## Water Delivery Facilities

The SWP depends on a complex system of dams, reservoirs, power plants, pumping plants, canals, and aqueducts to deliver water. Although initial water transportation facilities were essentially completed in 1973, other facilities have since been built, and still others are either under construction or are planned to be built, as needed.

The SWP facilities include 30 dams (29 of which impound water), 20 reservoirs, 29 pumping and generating plants, and approximately 700 miles of aqueducts. Figure 1-1 shows the names and locations of primary water delivery facilities. For more information about existing long-term SWP water supply contracts and annual water deliveries, see Table 1-6 (at the end of this chapter) and Chapter 9, Water Contracts and Deliveries.

Changes have occurred since the long-term SWP water supply contracts were signed in the 1960s, including population growth, differences in local water use, local water conservation programs, and conjunctive-use programs. Demands for SWP water are expected to increase and change as California's population continues to grow and as the potentially serious effects of climate change impact the State's water resources.

## Project Design

Water from rainfall and snowmelt runoff is stored in SWP conservation facilities and delivered via SWP transportation facilities to water agencies and districts in the Upper Feather River, North Bay, South Bay, San Joaquin, Central Coastal, and Southern California areas.

Three small reservoirs—Antelope Lake, Lake Davis, and Frenchman Lake—are the northernmost SWP facilities. Situated on Feather River tributaries in Plumas County, these lakes are used primarily for recreation. They also provide water to the City of Portola and local agencies that have water rights agreements with DWR.

Downstream from these lakes lies Lake Oroville, which conserves water from the Feather River watershed. Created by Oroville Dam, the tallest earthfill dam in the Western Hemisphere, Lake Oroville is the project's

largest storage facility with a capacity of approximately 3.5 million acre-feet (af).

Releases from Lake Oroville flow down the Feather River into the Sacramento River, which drains the northern portion of California's great Central Valley. The Sacramento River flows into the Sacramento-San Joaquin Delta, comprising 738,000 acres of land interlaced with channels that receive runoff from 40 percent of the State's land area. The SWP, federal Central Valley Project (CVP), and local agencies all divert water from the Delta.

From the northern Delta, Barker Slough Pumping Plant diverts water for delivery to Napa and Solano counties through the North Bay Aqueduct, which was completed in 1988. Near Byron, in the southern Delta, the SWP diverts water into Clifton Court Forebay for delivery south of the Delta. Banks Pumping Plant lifts water from Clifton Court Forebay into the California Aqueduct, which flows to Bethany Reservoir. From Bethany Reservoir, the South Bay Pumping Plant lifts water into the South Bay Aqueduct to supply Alameda and Santa Clara counties. The South Bay Aqueduct provided initial deliveries in 1962 and has been fully operational since 1965.

Most of the water delivered to Bethany Reservoir from Banks Pumping Plant flows into the California Aqueduct. This 444-mile-long main aqueduct conveys water to the agricultural lands of the San Joaquin Valley and to the urban regions of Southern California.

The California Aqueduct winds along the west side of the San Joaquin Valley. It transports water to O'Neill Forebay, Gianelli Pumping-Generating Plant, and San Luis Reservoir. San Luis Reservoir has a storage capacity of more than 2 million af and is jointly owned by DWR and the Bureau of Reclamation (Reclamation). DWR's share of gross storage in the reservoir is 1,062,183 af. Generally, water is pumped into San Luis



**Figure 1-1 Names and Locations of Primary Water Delivery Facilities, December 31, 2013**

Reservoir from late fall through early spring, where it is temporarily stored for release back to the California Aqueduct to meet summertime peaking demands of SWP and CVP water contractors.

SWP water not stored in San Luis Reservoir and water released from San Luis flows south through the San Luis Canal, a portion of the California Aqueduct jointly owned by DWR and Reclamation.

As the water flows through the San Joaquin Valley, numerous turnouts convey it to farmlands within the service areas of the SWP and CVP. Along its journey, this water is lifted more than 1,000 feet by four pumping plants—Dos Amigos, Buena Vista, Teerink, and Chrisman—before reaching the foot of the Tehachapi Mountains.

In the southern San Joaquin Valley, near Kettleman City, Phase I of the Coastal Branch Aqueduct serves agricultural areas west of the California Aqueduct. In August 1997, completion of Phase II extended the Coastal Branch Aqueduct to serve municipal and industrial water users in San Luis Obispo and Santa Barbara counties.

The remaining water conveyed by the California Aqueduct is delivered to Southern California, home to roughly two-thirds of California's population. Before it can be delivered, the water must first cross the Tehachapi Mountains. Fourteen 80,000-horsepower pumps at Edmonston Pumping Plant, situated at the foot of the mountains, raise the water 1,926 feet—the highest single lift of any pumping plant in the world. The water enters 8.5 miles of tunnels and siphons as it flows into Antelope Valley, where the California Aqueduct divides into two branches: the East Branch and the West Branch.

The East Branch carries water through Alamo Powerplant, Pearblossom Pumping Plant, and Mojave Siphon Powerplant into

Silverwood Lake in the San Bernardino Mountains. From Silverwood Lake, water flows through the San Bernardino Tunnel to Devil Canyon Powerplant. Water continues down the East Branch through the Santa Ana Pipeline to Lake Perris, the southernmost SWP reservoir.

The East Branch Extension is a nearly 33-mile pipeline linking parts of service areas for San Bernardino Valley Municipal Water District and San Gorgonio Pass Water Agency to the California Aqueduct. The East Branch Extension, Phase I, carries water from Devil Canyon Powerplant Afterbay to Cherry Valley, bringing water to Yucaipa, Calimesa, Beaumont, Banning, and other communities. Phase II, when completed, will assist with this delivery.

Water in the West Branch flows through Oso Pumping Plant, Quail Lake, and then from the Peace Valley Pipeline through Warne Powerplant into Pyramid Lake in Los Angeles County. From there it flows through the Angeles Tunnel, Castaic Powerplant, Elderberry Forebay, and into Castaic Lake, terminus of the West Branch. Castaic Powerplant is operated by the Los Angeles Department of Water and Power.

The energy needed to operate the SWP, the largest single user of electrical power in California, comes from a combination of its own hydroelectric and coal-fired generating plants and power purchased from and exchanged with other utilities. The coal-fired plant and the project's eight hydroelectric power plants, including four pumping-generating plants, produce enough electricity in a normal year to supply about two-thirds of the SWP's necessary operating power.

Tables 1-1 through 1-5 present statistical information about primary storage facilities, primary dams, pumping plants, power plants, and aqueducts.

**Table 1-1 Physical Characteristics of Primary Storage Facilities**

| Facility                  | Data at Absolute Maximum Elevation |                      |                   |
|---------------------------|------------------------------------|----------------------|-------------------|
|                           | Gross Capacity (acre-feet)         | Surface Area (acres) | Shoreline (miles) |
| Antelope Lake             | 22,600                             | 930                  | 15                |
| Frenchman Lake            | 55,500                             | 1,580                | 21                |
| Lake Davis                | 84,400                             | 4,030                | 32                |
| Lake Oroville             | 3,537,600                          | 15,810               | 167               |
| Thermalito Forebay        | 11,800                             | 630                  | 10                |
| Thermalito Afterbay       | 57,000                             | 4,300                | 26                |
| Thermalito Diversion Pool | 13,400                             | 320                  | 10                |
| Clifton Court Forebay     | 31,300                             | 2,180                | 8                 |
| Bethany Reservoir         | 5,100                              | 180                  | 6                 |
| Lake del Valle            | 77,100                             | 1,060                | 16                |
| San Luis Reservoir        | 2,027,800                          | 12,520               | 65                |
| SWP storage, 1,062,183 af |                                    |                      |                   |
| O'Neill Forebay           | 56,400                             | 2,700                | 12                |
| SWP storage, 29,500 af    |                                    |                      |                   |
| Los Banos Reservoir       | 34,600                             | 620                  | 12                |
| Little Panoche Reservoir  | 5,600                              | 190                  | 6                 |
| Quail Lake                | 7,600                              | 290                  | 3                 |
| Pyramid Lake              | 171,200                            | 1,300                | 21                |
| Elderberry Forebay        | 32,500                             | 500                  | 7                 |
| Castaic Lake              | 323,700                            | 2,240                | 29                |
| Silverwood Lake           | 75,000                             | 980                  | 13                |
| Lake Perris               | 131,500                            | 2,320                | 10                |

## Future Planning and Construction

The planning, design, and construction of SWP facilities were based on studies and analyses that projected SWP water contractor annual water delivery needs. To meet these projected needs, water conservation reservoirs, storage facilities, and delivery facilities were planned to be constructed in stages as demands for water increased. Lake Oroville and San Luis Reservoir were the first SWP conservation reservoir facilities constructed. Additional

facilities were scheduled to meet increased demands. It was anticipated that population growth in delivery service areas and water supply areas of origin would influence the final schedule for SWP facilities.

Increasingly, issues such as escalating costs, environmental concerns, and increased non-SWP demand for limited water supplies have become important factors affecting the planning and construction of new facilities.

In response to changes in water management policy, DWR continues to reassess plans for additional facilities that will incorporate increased environmental safeguards, while also increasing SWP delivery yield. Developing these plans involves the time-consuming process of finding technically suitable projects and satisfying many complex and dynamic environmental procedures, laws, and regulations.

For more information about current SWP planning and construction, see Chapter 12, Engineering, Construction, and Real Estate. Information about prior construction activities can be found in previous issues of Bulletin 132.

## Climate Change

Planners are also concerned about climate change and its potentially serious effects on water resources. Temperature increases may affect water demand and aquatic ecosystems. Projected increases in air temperature may lead to changes in the amount, timing, and form of precipitation—rain or snow; changes in the volume and timing of runoff; Delta water quality changes due to sea-level rise; and changes in the amount of irrigation water needed due to modified evapotranspiration rates.

The ability of the SWP and CVP to meet the water demands of their customers and the environment depends on the accumulation of mountain snow and subsequent spring

**Table 1-2 Physical Characteristics of Primary Dams**

| Facility                 | Crest Elevation (feet) | Structural Height (feet) | Crest Length (feet) | Structural Volume (thousand cubic yards) |
|--------------------------|------------------------|--------------------------|---------------------|--|
| Antelope                 | 5,025                  | 120                      | 1,320               | 380                                      |
| Frenchman                | 5,607                  | 139                      | 720                 | 537                                      |
| Grizzly Valley           | 5,785                  | 132                      | 800                 | 253                                      |
| Oroville                 | 922                    | 770                      | 6,920               | 80,000                                   |
| Thermalito Diversion     | 233                    | 143                      | 1,300               | 154                                      |
| Thermalito Forebay       | 231                    | 91                       | 15,900              | 1,840                                    |
| Thermalito Afterbay      | 142                    | 39                       | 42,000              | 5,020                                    |
| Clifton Court Forebay    | 14                     | 30                       | 36,500              | 2,440                                    |
| Bethany                  | 250                    | 121                      | 3,940               | 1,400                                    |
| Del Valle                | 773                    | 235                      | 880                 | 4,150                                    |
| Sisk                     | 554                    | 385                      | 18,600              | 77,645                                   |
| O'Neill Forebay          | 233                    | 88                       | 14,350              | 3,000                                    |
| Los Banos Detention      | 384                    | 167                      | 1,370               | 2,100                                    |
| Little Panoche Detention | 676                    | 152                      | 1,440               | 1,210                                    |
| Pyramid                  | 2,606                  | 400                      | 1,090               | 6,860                                    |
| Elderberry Forebay       | 1,550                  | 200                      | 1,990               | 6,000                                    |
| Castaic                  | 1,535                  | 425                      | 4,900               | 46,000                                   |
| Cedar Springs            | 3,378                  | 249                      | 2,230               | 7,600                                    |
| Perris                   | 1,600                  | 128                      | 11,600              | 20,000                                   |
| Crafton Hills            | 2,932                  | 95                       | 500                 | 144                                      |

**Table 1-3 Pumping Plant Characteristics**

| Facility                  | Number of Units      | Normal Static Head (feet) | Total Flow at Design Head (cfs) | Total Motor Rating (hp) |
|---------------------------|----------------------|---------------------------|---------------------------------|-------------------------|
| Robie Thermalito          | 3 (p-g) <sup>a</sup> | 85-102                    | 9,120                           | 120,000                 |
| Hyatt                     | 3 (p-g) <sup>a</sup> | 500-625                   | 5,610                           | 519,000                 |
| Barker Slough             | 9                    | 95-120                    | 228                             | 4,800                   |
| Cordelia                  | 11                   | 138                       |                                 |                         |
| Banks                     | 11                   | 236-252                   | 10,670                          | 333,000                 |
| South Bay                 | 9                    | 566                       | 330                             | 27,750                  |
| Del Valle                 | 4                    | 0-38                      | 120                             | 1,000                   |
| Gianelli                  | 8 (p-g) <sup>a</sup> | 99-327                    | 11,000                          | 504,000                 |
| Dos Amigos                | 6                    | 107-125                   | 15,450                          | 240,000                 |
| Las Perillas              | 6                    | 55                        | 461                             | 4,050                   |
| Badger Hill               | 6                    | 151                       | 454                             | 11,750                  |
| Devil's Den <sup>b</sup>  | 6                    | 521                       | 134                             | 10,500                  |
| Bluestone <sup>b</sup>    | 6                    | 484                       | 134                             | 10,500                  |
| Polonio Pass <sup>b</sup> | 6                    | 533                       | 134                             | 10,500                  |
| Buena Vista <sup>b</sup>  | 10                   | 205                       | 5,405                           | 144,500                 |
| Teerink <sup>b</sup>      | 9                    | 233                       | 5,445                           | 150,000                 |
| Chrisman <sup>b</sup>     | 9                    | 518                       | 4,995                           | 330,000                 |
| Edmonston <sup>b</sup>    | 14                   | 1,926                     | 4,480                           | 1,120,000               |
| Oso                       | 8                    | 231                       | 3,252                           | 93,800                  |
| Pearblossom               | 9                    | 540                       | 2,575                           | 203,200                 |
| Greenspot                 | 4                    | 382                       | 50                              | 3,900                   |
| Crafton Hills             | 3                    | 613                       | 40                              | 4,000                   |
| Cherry Valley             | 2                    | 130                       | 75                              | 300                     |

<sup>a</sup>The term p-g indicates pumping-generating units.<sup>b</sup>These plants have one unit in reserve.

**Table 1-4 Power Plant Characteristics, by Type and Facility**

| Type and Facility                    | Number of Units        | Normal Static Head (feet) | Total Flow at Design Head (cfs) | Net Dependable Capacity (MW) | Nameplate Capacity (MW) |
|--------------------------------------|------------------------|---------------------------|---------------------------------|------------------------------|-------------------------|
| <b>Hydro</b>                         |                        |                           |                                 |                              |                         |
| Thermalito Diversion Dam             | 1                      | 63-77                     | 615                             | 3                            | 3                       |
| Robie Thermalito                     | 4 (3 p-g) <sup>a</sup> | 85-102                    | 17,400                          | 114                          | 114                     |
| Hyatt                                | 6 (3 p-g) <sup>a</sup> | 410-676                   | 16,950                          | 645                          | 645                     |
| Gianelli (total)                     | 8 p-g <sup>a</sup>     | 99-327                    | 16,960                          | 363                          | 424                     |
| Alamo                                | 1                      | 115-141                   | 1,740                           | 15                           | 17                      |
| Warne                                | 2                      | 719-739                   | 1,600                           | 67                           | 74                      |
| Mojave Siphon                        | 3                      | 81-136                    | 2,880                           | 29                           | 30                      |
| Devil Canyon                         | 4                      | 1,406                     | 2,940                           | 235                          | 276                     |
| Castaic <sup>d</sup>                 | 7 (6 p-g) <sup>a</sup> | 900-1,050                 | 20,820                          | 1,128                        | 1,254                   |
| <b>Coal</b>                          |                        |                           |                                 |                              |                         |
| Reid Gardner, Unit 4 (total)         | 1 <sup>b</sup>         |                           |                                 | 234                          | 275                     |
| SWP share of generation <sup>c</sup> |                        |                           |                                 |                              |                         |

<sup>a</sup>The term p-g indicates pumping-generating units.<sup>b</sup>Life of the plants is expected to extend through 2013.<sup>c</sup>SWP ownership share in Reid Gardner, Unit 4, is 67.8%. In July 2013, DWR ceased to import energy from this coal-fired power plant.<sup>d</sup>Castaic Pumping-Generating Plant is owned and operated by the Los Angeles Department of Water and Power.**Table 1-5 Total Miles of Aqueducts**

| Facility  | Channel and Reservoir | Canal and Siphon | Pipeline and Discharge Line | Tunnel      | Total        |
|---|-----------------------|------------------|-----------------------------|-------------|--------------|
| Grizzly Valley Pipeline                           | 0.0                   | 0.0              | 6.0                         | 0.0         | 6.0          |
| Thermalito Power Canal and Tail Channel           | 1.5                   | 1.9              | 0.0                         | 0.0         | 3.4          |
| North Bay Aqueduct                                | 0.0                   | 0.0              | 27.6                        | 0.0         | 27.6         |
| South Bay Aqueduct (including Del Valle Branch)   | 0.3                   | 10.7             | 31.9                        | 1.7         | 44.6         |
| <i>Subtotal</i>                                   | 1.8                   | 12.6             | 65.5                        | 1.7         | 81.6         |
| California Aqueduct                               |                       |                  |                             |             |              |
| Clifton Court Forebay to O'Neill Forebay          | 4.5                   | 61.9             | 0.3                         | 0.0         | 66.7         |
| O'Neill Forebay to Kettleman City                 | 4.1                   | 101.4            | 0.2                         | 0.0         | 105.7        |
| Kettleman City to Edmonston Pumping Plant         | 0.0                   | 120.1            | 0.9                         | 0.0         | 121.0        |
| Edmonston Pumping Plant to Tehachapi Afterbay     | 0.0                   | 0.2              | 1.9                         | 7.9         | 10.0         |
| Tehachapi Afterbay to Lake Perris                 | 4.0                   | 97.8             | 34.3                        | 3.9         | 140.0        |
| <i>Subtotal</i>                                   | 12.6                  | 381.4            | 37.6                        | 11.8        | 443.4        |
| California Aqueduct Branches                      |                       |                  |                             |             |              |
| Coastal Branch                                    | 0.0                   | 14.1             | 98.7                        | 2.7         | 115.5        |
| West Branch                                       | 9.7                   | 9.3              | 5.8                         | 7.1         | 31.9         |
| East Branch Extension                             |                       |                  |                             |             |              |
| Devil Canyon Powerplant to Greenspot Pump Station | 0.0                   | 0.0              | 16.2                        | 0.0         | 16.2         |
| Greenspot Pump Station to Noble Creek Terminus    | 0.0                   | 0.0              | 16.4                        | 0.0         | 16.4         |
| <i>Subtotal</i>                                   | 9.7                   | 23.4             | 137.1                       | 9.8         | 180.0        |
| <b>Total</b>                                      | <b>24.1</b>           | <b>417.4</b>     | <b>240.2</b>                | <b>23.3</b> | <b>705.0</b> |

and summer snowmelt runoff. A warming climate may reduce this natural water storage mechanism.

To address these concerns, DWR and Reclamation are coordinating with federal, State, and local agencies and nongovernmental organizations to provide qualitative and quantitative assessments of the potential risks and effects of climate change on California's water resources and update decision makers on climate change impacts, the ability of existing facilities to accommodate these impacts, and available mitigation measures.

In response to changes brought about by population growth, environmental concerns, climate change, and other factors, DWR continues to plan, design, and construct transportation and power-producing facilities for the SWP.

For more information on climate change, see Chapter 3, Environmental Programs.

## Methods of Financing

Project facilities have been constructed with several general types of financing: general obligation bonds and tideland oil revenues (under the Burns-Porter Act, which was approved by the Legislature in 1959, and the bond issue approved by voters in 1960); revenue bonds; and capital resources revenues. Repayment of these funds, and the operations, maintenance, power, and replacement costs associated with water supply, are paid by the 29 agencies and districts that have long-term contracts with DWR for the delivery of SWP water.

## Long-term Contracting Agencies

From 1963 through 1967, 32 agencies or districts signed long-term water supply contracts with DWR. However, in 1965,

the City of West Covina was annexed to The Metropolitan Water District of Southern California, and in 1981, Hacienda Water District was assigned to Tulare Lake Basin Water Storage District. On January 1, 1992, Castaic Lake Water Agency assumed all rights and obligations granted to Devil's Den Water District in accordance with its long-term water supply contract. Therefore, only 29 agencies and districts have long-term contracts with DWR as of December 31, 2013.

The contracts initially provided for a combined maximum annual Table A amount of 4,230,000 af of water supply. As a result of contract amendments in the 1980s, and the Monterey Amendment, the current combined maximum annual Table A amount by 2016 totals 4,172,786 af (see Appendix B, Table B-4 for details). The contracts are in effect for the longest of the following periods:

- the project repayment period, which extends to the year 2035;
- 75 years from the date of the contract; or
- the period ending with the latest maturity date of any bond used to finance the construction costs of project facilities.

Figure 1-2 shows the name and location of each contracting agency and district and lists the first year of SWP delivery service for each. Table 1-6 presents more detailed information about each contracting agency.



**Figure 1-2 Names, Locations, and First Year of Service of Long-term Contracting Agencies, December 31, 2013**

**Table 1-6 Long-term Water Supply Contracting Agencies, by Area, as of December 31, 2013**

| Contracting Agency                           | Cumulative Deliveries (af) <sup>a</sup> | Annual Table A (af) | Payments (in dollars) <sup>b</sup> | Gross Area (acres)            | Assessed Valuation (in dollars) <sup>b</sup> | Estimated Population |
|--|---|---------------------|------------------------------------|-------------------------------|--|----------------------|
| <b>Upper Feather River Area</b>              |   |                     |                                    |                               |  |                      |
| City of Yuba City                            | 41,037                                  | 9,600               | 6,793,435                          | 9,377                         | 4,471,569,746                                | 65,841               |
| County of Butte                              | 62,818                                  | 27,500              | 5,957,510                          | 1,049,280                     | 18,070,400,000                               | 204,000              |
| Plumas County Flood Control and WCD          | 11,701                                  | 2,410               | 2,129,525                          | 1,676,056 <sup>c</sup>        | 2,060,744,342                                | 21,200               |
| <i>Subtotal</i>                              | <i>115,556</i>                          | <i>39,510</i>       | <i>14,880,470</i>                  | <i>2,734,713</i>              | <i>24,602,714,088</i>                        | <i>291,041</i>       |
| <b>North Bay Area</b>                        |   |                     |                                    |                               |  |                      |
| Napa County Flood Control and WCD            | 302,871                                 | 29,025              | 116,600,730                        | 510,010                       | 29,745,725,494                               | 139,099              |
| Solano County Water Agency                   | 821,259                                 | 47,656              | 159,346,240                        | 581,760                       | 38,800,000                                   | 415,913              |
| <i>Subtotal</i>                              | <i>1,124,130</i>                        | <i>76,681</i>       | <i>275,946,970</i>                 | <i>1,091,770</i>              | <i>29,784,525,494</i>                        | <i>555,012</i>       |
| <b>South Bay Area</b>                        |   |                     |                                    |                               |  |                      |
| Alameda County Flood Control and WCD-Zone 7  | 1,562,370                               | 80,619              | 279,338,235                        | 275,900                       | 39,514,000,000                               | 224,000              |
| Alameda County WD                            | 1,277,888                               | 42,000              | 132,228,545                        | 67,200                        | 46,053,748,000                               | 331,000              |
| Santa Clara Valley WD                        | 4,124,703                               | 100,000             | 395,598,273                        | 849,000                       | 308,808,219,666                              | 1,853,677            |
| <i>Subtotal</i>                              | <i>6,964,961</i>                        | <i>222,619</i>      | <i>807,165,053</i>                 | <i>1,192,100</i>              | <i>394,375,967,666</i>                       | <i>2,408,677</i>     |
| <b>San Joaquin Valley Area</b>               |   |                     |                                    |                               |  |                      |
| County of Kings                              | 158,190                                 | 9,305               | 9,770,071                          | 893,300                       | 8,927,709,715                                | 150,479              |
| Castaic Lake Water Agency <sup>i</sup>       | 419,201                                 | 0                   |                                    | 8,700 <sup>e</sup>            | 4,532,936                                    | 0                    |
| Dudley Ridge WD                              | 2,348,955                               | 50,343              | 95,553,975                         | 37,600                        | 49,630,000                                   | 36                   |
| Empire West Side Irrigation District         | 122,319                                 | 3,000               | 4,730,078                          | 7,400                         | <sup>d</sup>                                 | 11                   |
| Kern County Water Agency                     | 36,511,377                              | 982,730             | 2,124,287,987                      | 5,224,000                     | 92,300,000,000                               | 856,158              |
| Oak Flat WD                                  | 211,568                                 | 5,700               | 7,710,453                          | 4,500                         | <sup>d</sup>                                 | 10                   |
| Tulare Lake Basin Water Storage District     | 4,921,955                               | 88,922              | 184,826,978                        | 189,519                       | 194,000,000                                  | 23                   |
| <i>Subtotal</i>                              | <i>44,693,565</i>                       | <i>1,140,000</i>    | <i>2,426,879,542</i>               | <i>6,365,019</i>              | <i>101,475,872,651</i>                       | <i>1,006,717</i>     |
| <b>Central Coastal Area</b>                  |   |                     |                                    |                               |  |                      |
| San Luis Obispo County Flood Control and WCD | 75,326                                  | 25,000              | 93,353,246                         | 2,122,240                     | 39,392,490,935                               | 274,804              |
| Santa Barbara County Flood Control and WCD   | 363,827                                 | 45,486              | 623,814,529                        | 193,391                       | 26,935,170,063                               | 381,562              |
| <i>Subtotal</i>                              | <i>439,153</i>                          | <i>70,486</i>       | <i>717,167,775</i>                 | <i>2,315,631</i>              | <i>66,327,660,998</i>                        | <i>656,366</i>       |
| <b>Southern California Area</b>              |   |                     |                                    |                               |  |                      |
| Antelope Valley-East Kern Water Agency       | 2,045,916                               | 141,400             | 556,986,801                        | 1,845,760                     | 23,393,420,864                               | 312,383              |
| Castaic Lake Water Agency                    | 1,050,938                               | 95,200              | 350,100,966                        | 124,800                       | 33,600,917,023                               | 275,300              |
| Coachella Valley WD                          | 1,373,561                               | 138,350             | 499,473,565                        | 639,857                       | 51,440,726,417                               | 303,846              |
| Crestline-Lake Arrowhead Water Agency        | 59,632                                  | 5,800               | 28,482,590                         | 54,777                        | 2,400,000,000                                | 23,413               |
| Desert Water Agency                          | 1,267,904                               | 55,750              | 307,487,101                        | 209,760                       | 9,131,339,000                                | 72,000               |
| Littlerock Creek Irrigation District         | 23,317                                  | 2,300               | 7,094,315                          | 10,000                        | 388,056,000                                  | 2,900                |
| The Metropolitan WD of Southern California   | 35,785,132                              | 1,911,500           | 11,030,601,366                     | 3,314,737 <sup>f</sup>        | 2,166,990,306,943                            | 18,379,203           |
| Mojave Water Agency                          | 390,461                                 | 82,800              | 304,439,898                        | 3,136,000                     | 27,400,114,225                               | 464,058              |
| Palmdale WD                                  | 273,242                                 | 21,300              | 87,812,610                         | 119,680                       | 1,414,494,581                                | 114,533              |
| San Bernardino Valley Municipal WD           | 942,802                                 | 102,600             | 651,058,560                        | 225,577                       | 41,521,279,396                               | 661,546              |
| San Gabriel Valley Municipal WD              | 427,121                                 | 28,800              | 170,640,388                        | 18,297                        | 16,850,589,307                               | 197,636              |
| San Gorgonio Pass Water Agency               | 57,662                                  | 17,300              | 155,826,190                        | 140,800                       | 5,708,130,719                                | 78,268               |
| Ventura County Watershed Protection District | 68,812                                  | 20,000              | 67,671,562                         | 308,252                       | 25,483,476,833                               | 464,600              |
| <i>Subtotal</i>                              | <i>73,766,500</i>                       | <i>2,623,100</i>    | <i>14,217,675,912</i>              | <i>10,148,297</i>             | <i>2,405,722,851,308</i>                     | <i>21,349,686</i>    |
| <b>Total</b>                                 | <b>97,103,865</b>                       | <b>4,172,396</b>    | <b>18,459,715,722</b>              | <b>23,847,530<sup>g</sup></b> | <b>3,022,289,592,205</b>                     | <b>26,267,499</b>    |

<sup>a</sup>All water delivered to long-term SWP contractors, including carryover, Article 21, surplus, unscheduled, exchange, permit, purchased, local, and non-SWP water.<sup>b</sup>Statutes of 1978, Chapter 1207, added Section 135 to the Revenue and Taxation Code, requiring assessment at 100% of full value for the 1981-1982 fiscal year and fiscal years thereafter.<sup>c</sup>Total of all Plumas County Flood Control and Water Conservation District, including Last Chance Creek Water District.<sup>d</sup>Assessed valuation not available on an agency area breakdown.<sup>e</sup>Castaic Lake Water Agency (Southern California Area) includes land in the San Joaquin Valley Area formerly known as Devil's Den Water District.<sup>f</sup>Total for Metropolitan, including Calleguas Municipal Water District, which is common to Metropolitan and Ventura County Watershed Protection District.<sup>g</sup>Includes duplicate values. Some areas that are within two or more agencies are included in each agency's total.<sup>h</sup>Includes all payments pursuant to the repayment provisions of the Water Supply Contracts. Transportation and Conservation Replacement Accounting System payments are also included in this table.



## Chapter 2

## Delta Resources

*A greenhouse gas sensor collects data on Sherman Island.*

## Significant Events in 2013

**J**n February 2013, a groundbreaking ceremony was held for the Fish Science Building project at Skinner Fish Facility. Overall, 90 percent of the new facility was completed in 2013.

The *Delta Plan* was adopted by the Delta Stewardship Council (DSC) on May 16, 2013. It became effective with legally enforceable regulations on September 1, 2013.

Full-scale predator sampling and acoustic tagging, avian surveys, and creel surveys for the Clifton Court Forebay fishing facility project began in fall 2013.

*Information for this chapter was contributed by the FloodSAFE Environmental Stewardship and Statewide Resources Office, the Bay-Delta Office, and the Division of Flood Management.*

The Sacramento-San Joaquin Delta is a unique environmental resource and a major source of water for millions of Californians. For more than 60 years, the Department of Water Resources (DWR) and other State and federal agencies have developed and implemented numerous programs to manage the Delta.

## Delta Water Management Programs

Future water deliveries to millions of Californians throughout the State will be affected by many factors, including two significant changes: Delta pumping restrictions and climate change. Ongoing planning activities and regulatory actions continue to influence DWR activities in the Delta. As a result of the efforts associated with the Bay Delta Conservation Plan (BDCP) and the Delta Stewardship Council's (DSC) *Delta Plan*, many of DWR's proposed projects were suspended as staff was redirected to work on the State Water Project (SWP) Delta Compliance Program.

### BDCP

The BDCP is being developed in compliance with the federal Endangered Species Act (ESA) and the California Natural Community Conservation Planning Act. When complete, the BDCP will provide the basis for the issuance of endangered species permits for the operation of the State and federal water projects. The plan will be implemented over the next 50 years. The heart of the BDCP is a long-term conservation strategy that sets forth actions needed for a healthy Delta.

For more information regarding BDCP, see Chapter 3, Environmental Programs.

### Delta Plan

The Delta Reform Act of 2009 requires the DSC to adopt a comprehensive, long-term management plan for the Delta (*Delta Plan*).

(For more information, see the sidebar, Delta Stewardship Council.) Additionally, the Delta Reform Act provides that when the BDCP is completed and successfully permitted, it will be incorporated into the *Delta Plan*.

The *Delta Plan* process went through seven drafts, a draft programmatic environmental impact report, and numerous public meetings and responses to public comments on the drafts.

The *Delta Plan* was adopted by the DSC on May 16, 2013. It became effective with legally enforceable regulations on September 1, 2013.

For more information regarding the *Delta Plan*, visit the DSC's website.

### State Water Project Delta Compliance Program

The SWP and Central Valley Project (CVP) obtained take authorization for ESA and California Endangered Species Act listed species for coordinated operations in the Delta through a U.S. Fish and Wildlife Service biological opinion (BiOp) for Delta Smelt in December 2008, a Department of Fish and Wildlife incidental take permit for Longfin Smelt in February 2009, and a National Marine Fisheries Service (NOAA Fisheries) BiOp for salmon, steelhead, and Green Sturgeon in June 2009. Some of the requirements in these documents were implemented right away, while other requirements needed development of studies and projects before being implemented.

## Delta Stewardship Council

Created by the Legislature under the Sacramento-San Joaquin Delta Reform Act of 2009 (Delta Reform Act), the Delta Stewardship Council (DSC) is an independent agency of the State of California composed of members who represent different parts of the State and offer diverse expertise in fields such as agriculture, science, the environment, and public service. Of the seven members, four are appointed by the Governor, one each is appointed by the Senate and Assembly, and the seventh is the Chair of the Delta Protection Commission. The council is the successor to the California Bay-Delta Authority and assumes all of its administrative rights, abilities, obligations, and duties.

The *Delta Plan* was adopted by the DSC on May 16, 2013. It became effective with legally enforceable regulations on September 1, 2013. The *Delta Plan* is a comprehensive, long-term management plan for the Sacramento-San Joaquin Delta. It establishes a set of integrated policies, strategies, and actions to guide State and local agencies to help achieve the coequal goals of providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem. It will also guide protection and enhancement of the unique resources, culture, and values of the Delta as an evolving place (California Water Code Section 85054).

The Delta Reform Act specifies eight policy objectives that are “inherent” in the coequal goals (see Water Code Section 85020); a related statewide policy to reduce reliance on the Delta in meeting the State’s future water supply needs through improved regional water self-reliance (Water Code Section 85021); and certain specific subjects and strategies that must be included in the *Delta Plan* (see generally, Water Code Sections 85301–85309).

The Delta Reform Act also established the Delta Science Program and Delta Independent Science Board (ISB) to provide the scientific support and oversight the DSC needs to make decisions based on sound science. Members of both are appointed by the DSC. The Delta Science Program replaces the CALFED Science Program, and the Delta ISB replaces the CALFED ISB.

The Delta Science Program will develop scientific information and synthesis on issues critical for managing the Bay-Delta system. That body of knowledge must be unbiased, relevant, authoritative, integrated across State and federal agencies, and communicated to Bay-Delta decision-makers, agency managers, stakeholders, the scientific community, and the public.

The Delta ISB is a standing board of nationally and internationally prominent scientists with appropriate expertise to evaluate the broad range of scientific programs that support adaptive management of the Delta. The Delta ISB will provide oversight of the scientific research, monitoring, and assessment programs that support adaptive management of the Delta through periodic reviews of each of those programs. The overall objective of Delta ISB oversight is to ensure that the science supporting Bay-Delta programs, the application of that science, and the technical aspects of the Bay-Delta programs are optimally developed and implemented.

In 2013, efforts continued under the SWP Delta Compliance Program to develop studies and projects to address regulatory requirements under the NOAA Fisheries and U.S. Fish and Wildlife Service BiOps and Department of Fish and Wildlife incidental take permit.

## Predation Reduction Efficiency Program

This program includes improving existing fish salvage release sites, developing additional fish salvage release sites, developing a fishing facility and associated predation study for Clifton Court Forebay, and evaluating the screening efficiency of the Skinner Fish Facility to comply with the requirements under the BiOps and incidental take permit. These requirements include:

- reducing prescreen loss of ESA-protected salmon and steelhead in Clifton Court Forebay to no more than 40 percent;
- reducing predation by 50 percent at the fish release sites;
- implementing fish release site studies to develop methods to reduce predation following release of salvaged fish; and
- identifying salvage deficiencies and recommending actions to improve salvage efficiency in order to meet a required efficiency goal of 75 percent for salmonids.

The addition of the Fish Science Building at the Skinner Fish Facility is essential as the current collection, handling, transport, and release building is too small and lacks the necessary equipment to hold and rear the fish to carry out various studies and projects. The building will include a small laboratory, fish rearing tanks, an office, and an area to store study gear and equipment. The Fish Science Building project initiated construction with a groundbreaking ceremony in February 2013. A significant amount of construction was completed during the year, including the foundation,

walls, roof, and water and electrical systems. Overall, 90 percent of the new facility was completed.

## Fish Salvage Release Sites

The predation reduction strategy for the release sites includes designing and constructing the Curtis Landing fish release site with minimal in-water structure to reduce predation and improve survival of released salvaged fish, building two new sites on Sherman Island to increase the time between releases at each site, and coordinating interagency use of release sites.

During 2013, engineering design, review, plans, and specifications were completed for the Curtis Landing fish release site. In addition, all regulatory permits and approvals were obtained, and the project was approved for advertising and construction in 2014. Efforts on the two new sites included identifying the proposed sites, conducting geotechnical investigations, and coordinating with the Central Valley Flood Protection Board and U.S. Army Corps of Engineers (Corps) on levee improvements concerning project levees.

## Fish Screen Evaluations

Fish screens at Barker Slough Pumping Plant, Roaring River Slough Distribution System, and diversions around Sherman Island will be evaluated in order to comply with the requirements of the BiOps and the incidental take permit. The evaluations consist of four components:

- underwater site inspection;
- fish screen cleanliness evaluation;
- fish screen hydraulic evaluation; and
- fish entrainment and impingement evaluation.

These components determine if facility structural components are in sufficient condition to perform as designed; the effectiveness of fish screen cleaning

practices; water approach velocities for various screen cleanliness conditions; and entrainment and impingement for various combinations of fish presence, pumping rates, time of day, and time of year.

During 2013, underwater site inspections for each facility were completed and a pilot year report for the facilities was prepared. Cleanliness and hydraulic monitoring was initiated at each facility along with some small-scale sediment removal at the Roaring River Slough Distribution System. In addition, final fish screen evaluation plans were prepared for each of the facilities along with a draft maintenance report plan and template.

## Ad Hoc Studies

In January 2012, a joint stipulation was filed in the consolidated salmonid cases litigation regarding the 2009 NOAA Fisheries BiOp. The 2012 Stipulation Study was undertaken to gain more information about the effects of CVP and SWP export operations on juvenile steelhead and fall-run Chinook Salmon, gain a better understanding of the effect of Old River and Middle River reverse flows on steelhead route selection and survival in the South Delta, and pilot an approach to manage water export risks to ESA listed salmonids. This study was intended to comply with the requirements of a court settlement agreement that would support evaluation of the BiOp reasonable and prudent alternative Action IV.2.1, limiting south Sacramento-San Joaquin Delta exports during April and May, as a function of San Joaquin River flows. The study was successfully completed and utilized real-time data to inform in-season management and water operations in 2012.

During 2013, a data analysis plan was prepared and approved by an interagency technical team. The analysis was completed and a draft technical report was prepared for review.

Additional information about CVP/SWP operations related to the BiOps can be found in Chapter 3, Environmental Programs.

## Clifton Court Forebay Fishing Facility

The predation reduction strategy in the Clifton Court Forebay is to increase fishing pressure on predators by constructing a fishing pier to provide improved access for anglers that will result in reduced prescreen loss of ESA protected salmon and steelhead in the forebay. During 2013, the final feasibility-level study for the Clifton Court Forebay fishing facility was completed. It identified risks and issues to be addressed during design and construction of the facility. In addition, permitting, environmental documentation, and geotechnical explorations were initiated for the proposed facility. A predator study was also initiated in 2013. The study is designed to gather as much information as possible, pre- and post-installation of the proposed fishing facility, to document the behavior and population demographics of predatory fish and birds and salmonid survival. Pilot-level predator sampling and acoustic tagging, avian surveys, and creel surveys began in the spring. Full-scale predator sampling and acoustic tagging, avian surveys, and creel surveys began in the fall.

## Skinner Fish Facility

The strategy for determining the screening efficiency of the Skinner Fish Facility includes evaluating:

- fish losses through the primary louvers, secondary louvers, and holding tanks;
- hydraulics within the facility;
- the relative abundance of predators within the primary louver channels; and
- fish behavior and movement patterns as they are entrained and guided through the facility.

During 2013, a draft evaluation plan for the Skinner Fish Facility was prepared,

and a technical team was established to evaluate and recommend revisions to the SWP and CVP fish loss equations used at the respective facilities. Other efforts included initiating design activities to improve the debris conveyor and holding tanks and procuring new fish transport buckets.

## Delta Knowledge Improvement Program

In response to Assembly Bill 1200 (2005), which required DWR to provide a risk analysis of the Delta and Suisun Marsh and to develop a set of improvement strategies to manage those risks, DWR created the Delta Risk Management Strategy to look at the sustainability of the Delta and assess major risks to Delta resources from floods, seepage, subsidence, and earthquakes (see Bulletin 132-08 through 132-13).

During the course of the Delta Risk Management Strategy project, a number of information gaps or information quality issues were identified. The limited amount of quality information prompted the creation of the Delta Knowledge Improvement Program, a vehicle to actively fund specific studies to fill the data gaps identified in the Delta Risk Management Strategy.

In 2013, the Delta Knowledge Improvement Program focused on studies to improve State levee investment decisions in the Delta. These studies included:

- an economic study to assist the Delta Stewardship Council develop a comprehensive investment strategy for the Delta levees;
- a feasibility study to assist the Delta Protection Commission make recommendations on how to implement a Delta Flood Risk Management Assessment District;
- an investigation to determine how Delta levees on peat soils respond under seismic loading; and

- development of potential designs of setback levees in the Delta to meet stability requirements while also incorporating desired habitat features.

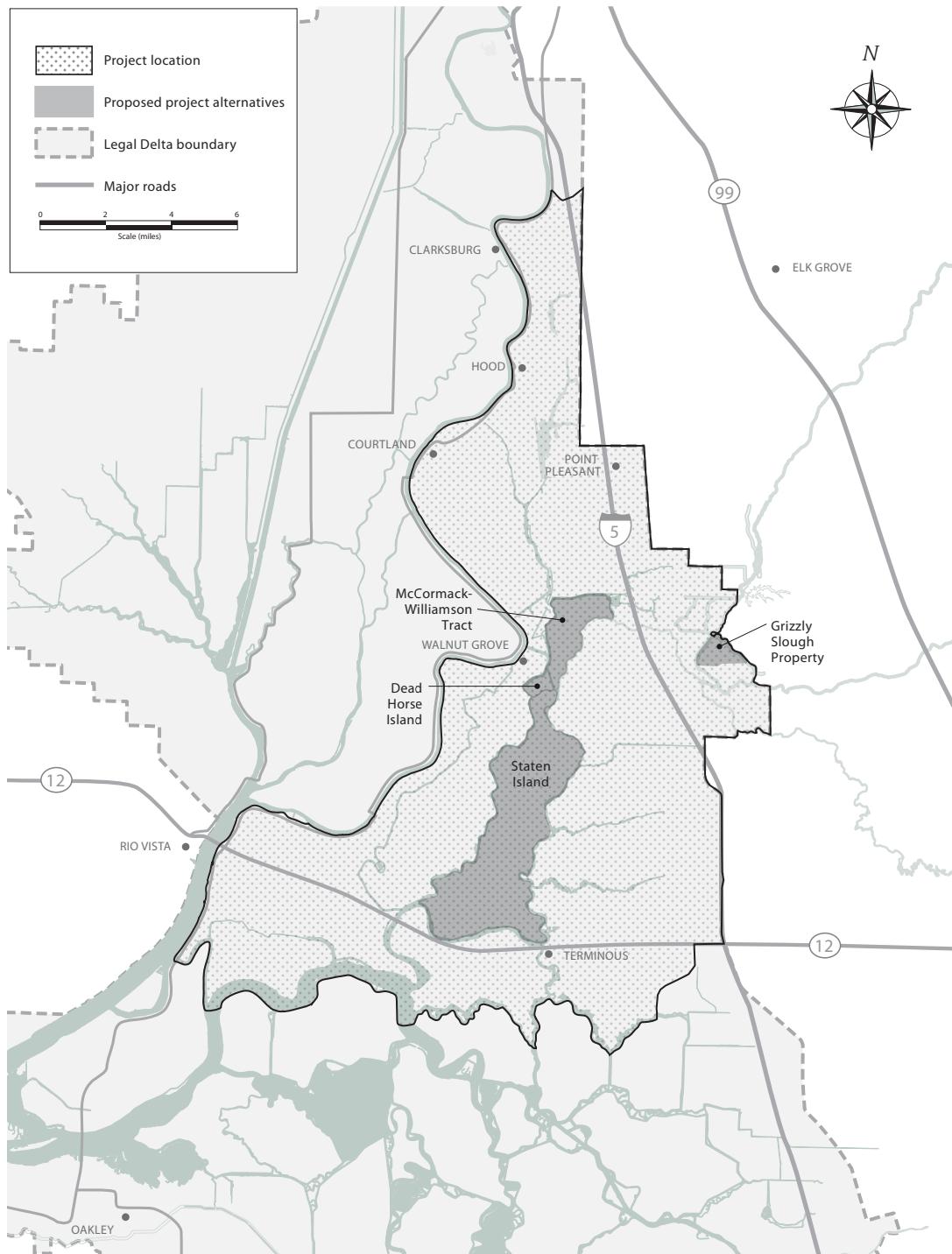
As part of an effort to update determination of the 100-year water levels in the Delta, the Delta Knowledge Improvement Program funded a data quality analysis of historical water levels reported by gauge stations in the Delta.

More information about the Delta Knowledge Improvement Program is available on DWR's website.

## North Delta Flood Control and Ecosystem Restoration Project

The North Delta Flood Control and Ecosystem Restoration Project (NDFCERP) will provide flood control improvements and ecosystem restoration in the North Delta. The project will implement important flood control improvements in the area of the North Delta where the Mokelumne River, Cosumnes River, Dry Creek, and Morrison Creek converge (see Figure 2-1). Flood flows in the area threaten levees, bridges, and roadways when levees on McCormack-Williamson Tract (MWT) are overtopped and a flood surge occurs. The proposed project will help regulate peak flood flows and prevent flood surges. It will also provide substantial aquatic and terrestrial habitat benefits.

The final NDFCERP environmental impact report was certified in November 2010 and recommended the implementation of the preferred alternative (Alternative 1-A for the Group I actions and the No Action Alternative for the Group II actions [for details see Bulletin 132-11]). The project will create tidal, subtidal, aquatic, and terrestrial habitats benefiting a number of special status species such as Sacramento



**Figure 2-1 North Delta Flood Control and Ecosystem Restoration Project, Project Area**

Splittail and Chinook Salmon. The project, as proposed, will provide contiguous habitat and a riparian corridor from the downstream portion of the Cosumnes River Preserve to the Delta.

Two project elements are proposed for implementation over a 6-year timeline: the MWT element combines North Delta flood surge reduction measures with the construction of habitat-friendly levees, floodplain restoration, and the creation of freshwater tidal habitat on MWT. The MWT property, purchased using a CALFED grant, is currently owned and managed by The Nature Conservancy. When completed, the MWT element will result in nearly 1,500 acres of tidal marsh and floodplain restoration, consistent with the objectives put forth in the evolving *Delta Plan* and BDCP. The Grizzly Slough element consists of breaching the Grizzly Slough and Bear Slough levees upstream of MWT to help attenuate peak flood flows and maximize nearly 500 acres of floodplain habitat on the DWR-owned property.

## Project Status

After a federal partnership with the Corps was terminated by Reclamation District 2110 in late 2012, DWR renegotiated an existing agreement with Reclamation District 2110 to complete the project design and permitting process without direct Corps participation. Project planning, permitting, and design work began in 2013 on the reslope features of existing MWT levees to support a phased approach for implementing the project. The State and Federal Contractors Water Agency maintained its interest in the project for potential credit toward meeting the requirements of the BiOps for long-term operations of the CVP and SWP. In early 2013, DWR and the State and Federal Contractors Water Agency completed a Fish Restoration Program Agreement crediting prospectus, and the Fishery Agency Strategy Team determined the project was eligible for Delta Smelt credits under the BiOp.

## South Delta Improvements Program

In 1999, the South Delta facilities became a key component of CALFED.

South Delta Improvements Program (SDIP) elements in the CALFED record of decision included increasing diversions through Clifton Court Forebay (first to 8,500 cubic feet per second [cfs] and then to 10,300 cfs), dredging and installing operable tidal barriers in the South Delta, installing a fish barrier at Head of Old River, and constructing the first phase of a new intake and fish screen in Clifton Court Forebay. SDIP is proposed to be implemented in two component stages.

DWR and the Bureau of Reclamation (Reclamation) identified the following SDIP project objectives and purposes:

- reducing movement of San Joaquin River watershed Central Valley fall-run and late fall-run juvenile Chinook Salmon into the South Delta via Old River (SDIP Stage 1);
- maintaining adequate water levels and water quality through improved circulation for agricultural diversions in the South Delta, downstream of the Head of Old River (SDIP Stage 1);
- increasing water deliveries and delivery reliability to SWP and CVP water contractors south of the Delta (SDIP Stage 2); and
- providing opportunities to convey water for fish and wildlife purposes by increasing the maximum permitted level of diversion through the existing intake gates at Clifton Court Forebay to 8,500 cfs (SDIP Stage 2).

The SDIP Stage 1 physical/structural component includes the following elements:

- constructing and operating a fish-control gate at the Head of Old River to reduce

downstream movement of San Joaquin River watershed Central Valley fall-run and late fall-run juvenile Chinook Salmon into the South Delta via the Head of Old River;

- constructing and operating up to three flow-control structures (gates) at Middle River (near the confluence of Middle River with Victoria Canal); Grant Line Canal (near the confluence of Grant Line Canal and Old River); and Old River (just east of the Delta-Mendota Canal intake) to improve existing water levels and circulation patterns in South Delta water channels;
- dredging various channels in the South Delta, including Middle and Old rivers, to improve conveyance; and dredging areas surrounding agricultural diversions to improve their function; and
- extending up to 24 agricultural diversion intake facilities to improve their function.

The SDIP final environmental impact report/environmental impact statement (2006) determined the preferred alternative for SDIP Stage 1, which entails installation of permanent control gates to replace the temporary rock barriers currently installed and removed each year under the DWR South Delta Temporary Barriers Project. The preferred alternative also includes the elements of dredging and extending agricultural diversions.

## Preferred Plan

The preferred plan for SDIP is to construct the Stage 1 physical/structural component as soon as permits are obtained and defer the operational component until more is known about the project's potential effects on Delta Smelt and other protected fish species.

DWR deferred both the increase in diversions of up to 10,300 cfs and the associated new fish screens as components of the SDIP due to major funding issues and significant

technical uncertainties associated with the design and construction of the new fish screens.

## Program Status

DWR and Reclamation continued to suspend most SDIP planning and permitting activities during 2013. Some activities were undertaken to address requirements of the 2009 NOAA Fisheries BiOp for the CVP and SWP Long-term Operations Criteria and Plan.

Discussions between DWR and NOAA Fisheries revealed NOAA Fisheries' concern for potential barrier hydraulic disturbances that could promote increased predation on juvenile salmon. DWR conducted a hydrodynamic study focusing on barrier design features to minimize these disturbances. A study report was submitted to NOAA Fisheries in April 2010, which identified several features that could be incorporated into the design.

NOAA Fisheries stated an interest to delay further discussions on the SDIP until completion of an ongoing, multiyear South Delta Temporary Barriers Project predation study. The study is being conducted to satisfy requirements of the 2008 NOAA Fisheries BiOp for the project and is examining the occurrence of predation associated with the project. The study's field data collection was completed in 2011, and data analysis is in progress. Data from the study will be useful in considering permanent barrier design options and operation strategies to minimize predation.

For additional information about SDIP, see Chapter 7, Water Supply Development and Reliability.

## Temporary Barriers Project Facilities

The South Delta Temporary Barriers Project is an ongoing project that installs up to four rock barriers in channels located in the southern portion of the Sacramento-San

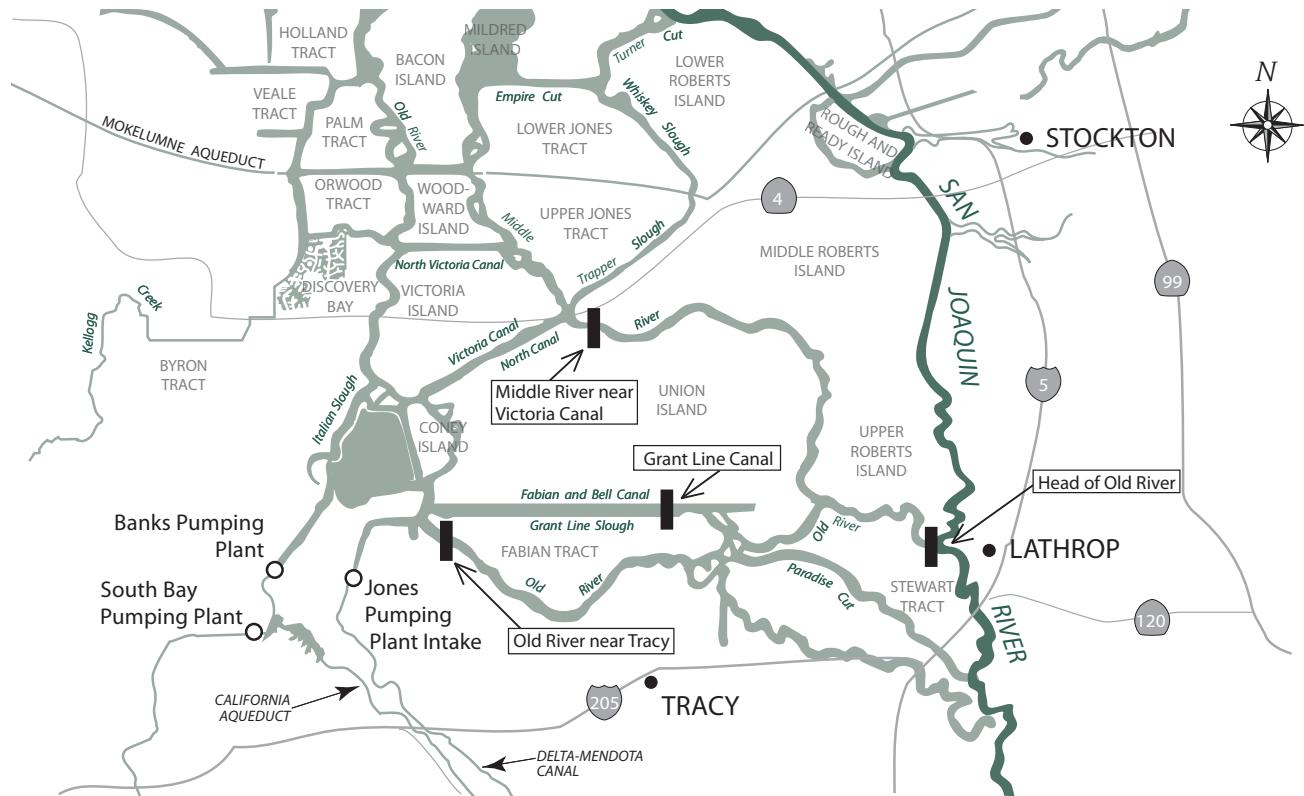
Joaquin Delta near the cities of Tracy and Lathrop in San Joaquin County. The barriers are installed during the irrigation season from April to November at four sites (see Figure 2-2), as follows:

- (1) Head of Old River, in Old River where it splits from the San Joaquin River;
- (2) Old River near Tracy, one-half mile east of the Jones Pumping Plant intake and about 8 miles northwest of Tracy;
- (3) Middle River near Victoria Canal, just southeast of the confluence of Middle River, Trapper Slough, and North Canal; and
- (4) Grant Line Canal, 420 feet east of the Tracy Boulevard Bridge.

The Old River near Tracy, Middle River near Victoria Canal, and Grant Line Canal rock barriers are designed to act as flow-control structures to improve water levels and

circulation within the South Delta. The Head of Old River barrier is designed to improve migration conditions for Central Valley fall-run Chinook Salmon in the spring and fall. In the spring, the barrier blocks juvenile salmon migratory movements into Old River from the San Joaquin River. In the fall, the barrier increases the volume of San Joaquin River flow passing downstream through the Port of Stockton and improves dissolved oxygen levels in the San Joaquin River. As a result, it improves the low dissolved oxygen sag that occurs near that area and aids adult salmon upstream migration in the San Joaquin River basin.

In 2013, the three flow-control agricultural barriers at Middle River near Victoria Canal, Grant Line Canal, and Old River near Tracy were installed and operated as planned. The installation took place in May, and the barriers were removed in November. Additionally, the option of raising the Middle



**Figure 2-2 Temporary Barrier Locations in the South Delta**

River barrier by 1 foot to increase water level and improve circulation was exercised in June.

The spring Head of Old River rock barrier was not installed in 2013 due to a management decision. Instead, existing data collected from previous years was analyzed so the information could be applied to future barrier installation.

Despite the absence of the spring rock barrier at the Head of Old River in 2013, Head of Old River fish monitoring was implemented to study predatory fish distribution and abundance in the vicinity of the Head of Old River. The coordinated acoustic telemetry studies were conducted by Reclamation and the U.S. Fish and Wildlife Service to track the movements of salmon smolts, steelhead, and predatory fish to determine outmigrating salmon smolt survival and to learn more about predatory fish behavior.

In 2013, the fall Head of Old River rock barrier was not installed due to an adequate presence of dissolved oxygen in the Stockton Deep Water Ship Channel and because it was not requested by the Department of Fish and Wildlife.

Data collected in 2013 is being analyzed, and the findings of the studies will be published in a comprehensive report.

Information on the temporary barriers, including details about barrier operations, can be found on DWR's website.

## Delta Flood Control

Levees in the Sacramento-San Joaquin Delta protect valuable wildlife habitat, farms, homes, urban areas, recreational developments, highways, railroads, natural gas infrastructure, utility lines, a major aqueduct, and other public developments. Delta levees influence and protect critical

water quality parameters in Delta waterways. Some levees also protect water quality for approximately 27 million Californians who receive a portion of their water from the Delta. The State Legislature recognized the importance of the Delta and enacted the Delta Flood Protection Act of 1988, declaring that "... the Delta is endowed with many invaluable and unique resources and that these resources are of major statewide significance" (Senate Bill 34 [Water Code Sections 12300 et seq. and 12980 et seq.]).

Since 1988, the Delta Levees Program has provided more than \$310 million in State-appropriated funds. These monies are combined with local cost-share funding to provide flood protection and environmental benefits in the Delta.

In Senate Bill 34, the Legislature declared its intent to appropriate \$6 million for local assistance under the Delta Levee Maintenance Subventions Program and \$6 million for Delta Levees Special Flood Control Projects, including subsidence studies and monitoring on Bethel, Bradford, Jersey, Sherman, and Twitchell islands; Holland, Hotchkiss, and Webb tracts; and the towns of Thornton and Walnut Grove.

In 1996, Assembly Bill 360 expanded the area covered by the Delta Levees Program to include the remainder of the legal Delta and northern Suisun Bay.

Additional funding sources for the Delta Levees Program include:

- Proposition 204 enacted in 1996 (\$25 million);
- Proposition 13 enacted in 2000 (\$30 million);
- Proposition 50 enacted in 2002 (\$70 million);
- Proposition 84 enacted in 2006 (\$275 million);
- Proposition 1E enacted in 2006; and
- Proposition 1 to be enacted in 2014.

## Delta Flood Emergency Preparedness, Response, and Recovery Program

The Delta Flood Emergency Preparedness, Response, and Recovery Program is a part of the FloodSAFE California Initiative. The FloodSAFE initiative was developed by DWR in response to the passing of the Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E). The program is designed to enhance emergency preparedness and enable DWR to better coordinate with its local partners to respond to and recover from a large-scale Delta flood emergency.

The draft *Delta Flood Emergency Management Plan* presents DWR's concept of operations for flood emergency response in the Delta. The plan describes the roles and responsibilities of DWR's emergency response organizations, including the Flood Operations Center, the Project Operations Center, and the Department Operations Center, and lists DWR's actions during flood emergency response. It also supports DWR's emergency preparedness efforts in the Delta and guides DWR management in making critical decisions during recovery.

For more information, visit DWR's website.

## Delta Levees Maintenance Subventions Program

The Delta Levees Maintenance Subventions Program (Subventions Program) is a cost-share program that provides technical and financial assistance to local levee-maintaining agencies in the Sacramento-San Joaquin Delta for the maintenance and rehabilitation of Delta levees. The Subventions Program is authorized by California Water Code Sections 12980 through 12995 and is managed by DWR. The Central Valley Flood Protection Board reviews and approves DWR's recommendations and enters into

agreements with local agencies to reimburse eligible costs for levee maintenance and rehabilitation.

The Subventions Program provides funding to local levee-maintaining agencies for improving, maintaining, and enhancing nearly 700 miles of project and nonproject levees. Since its inception in 1973, the Subventions Program has provided more than \$160 million of State funding to more than 70 islands in the Sacramento-San Joaquin Delta. In fiscal year 2013–2014, the program reimbursed approximately \$8 million to local agencies for eligible levee maintenance and rehabilitation activities. These activities helped minimize the risk of Delta levee failure, which in turn protects the Delta's ecosystem, communities, and agriculture; State and private infrastructure; and the State's water supply.

## Delta Special Flood Control Projects Program

The Delta Special Flood Control Projects Program is authorized by California Water Code Sections 12310 through 12318. The program assists eligible local agencies in the Delta with flood protection and levee stability repairs. In 1990, the California Water Commission approved actions and priorities that serve as a guide for DWR to determine the best use of appropriations to protect Delta islands. Long-term actions and priorities include:

- rehabilitating threatened levees through the beneficial reuse of dredged material;
- verifying elevations in the Delta through the use of global positioning system equipment and light detection and ranging;
- upgrading levees to the standards included in Bulletin 192-82 (Delta Levees Investigation); and
- considering projects to achieve net long-term habitat improvement for fish and wildlife.

While DWR seeks cost sharing for all projects, the actual reimbursement depends on each reclamation district's ability to pay. DWR may provide up to 100 percent of the cost. Districts receiving these funds are required to participate in a habitat improvement program to ensure net long-term habitat enhancement.

Levee restoration projects, habitat projects, and other special projects were conducted on various Delta islands and tracts in 2013–2014. Also undertaken during the year were levee improvements on Jersey and Bradford islands to support temporary emergency drought barriers (if required) as part of DWR's drought response.

## Model Bulk Credits Program

In order to more effectively meet reclamation district habitat mitigation obligations resulting from the Delta Levees Subventions and Special Flood Control Projects local assistance, the programs established a model Bulk Credits Program in 2012. Mitigation credits were purchased in advance from an existing mitigation bank. These credits provide more biologically effective mitigation than past practices of establishing less formal, smaller mitigation sites, and are a much more efficient way of meeting mitigation obligations. The bulk purchase of credits from the mitigation bank was made at a substantial discount.

In 2013, the Bulk Credits Program became widely accepted by participating reclamation districts, with virtually all mitigation taking place through the program. Additionally, the program commenced investigations for building a custom mitigation site for future needs, targeting DWR lands on Twitchell Island.

## Reuse of Dredged Material for Delta Levees

As local sources of fill material for levee repair are depleted, new economical

sources must be located. DWR has worked to find opportunities to reuse clean, dredged material in the Sacramento-San Joaquin Delta.

As part of this effort, a charter for the multiagency Delta Long-Term Management Strategy (LTMS) for the beneficial reuse of dredged material became effective in February 2007. The LTMS is designed to improve operational efficiency and coordination of collective and individual agency decision-making responsibilities, resulting in approved dredging and dredged material management actions in the Delta, including the beneficial reuse of such material. Regular LTMS meetings have included representatives from DWR, the Corps, the U.S. Environmental Protection Agency, the Regional Water Quality Control Board, the Ports of Stockton and West Sacramento, and other interested parties.

Delta LTMS long-term goals include:

- developing a streamlined permitting process for dredging and dredged material reuse;
- developing a consolidated guidance document addressing sampling, tests, protocols, and methods for assessing sediment and dredged material characterization;
- developing a sediment management plan of methodologies for assessing and characterizing sediments and determining appropriate disposal options;
- developing a programmatic biological assessment for sensitive Delta species;
- drafting a programmatic environmental impact report/environmental impact statement for the Delta LTMS; and
- identifying and permitting additional sediment placement and beneficial reuse sites in the Delta.

The San Francisco Bay LTMS Management Plan calls for periodic review and/or

modification of the program to ensure that it remains achievable and current in light of changing conditions over time. The LTMS agencies conduct a thorough analysis of the program every 6 years. In 2012, the LTMS agencies completed a comprehensive 12-year review of the program, and the final report for the 12-year review was issued in August 2013.

## West Delta Program

The West Delta Program is charged with managing the lands on Sherman and Twitchell islands to achieve DWR's goals and objectives, including understanding and managing methods that will mitigate subsidence. These program objectives are supported by active research and application of land management activities used for subsidence reversal, carbon sequestration, and habitat development.

Over the past 15 years, DWR has been working with various researchers to:

- understand what causes subsidence;
- develop best management practices to stop subsidence; and
- determine greenhouse gas (GHG) benefits of wetland crops in the Delta.

Currently, it is known that: (1) subsidence can be halted by shallow flooding of the organic soil to stop its aerobic decomposition; (2) organic soils can be re-established by growing marsh plants; and (3) a developing carbon market will pay to sequester carbon. The potential to grow marsh plants and sequester carbon offers the Delta a unique opportunity to take advantage of the combination of conditions to increase elevation on subsided lands, restore a large portion of the Delta to marsh and wetlands, and receive compensation for taking land out of traditional agriculture.

In 2013, the West Delta Program initiated a multiagency effort to develop a draft GHG

protocol that will be considered for adoption by the California Air Resources Board in late 2015 or early 2016. This protocol will allow for quantification of a project's net increase in carbon sequestration and will consider GHG emissions from the converted agricultural land to calculate a project's net GHG benefit. The protocol has a modular format providing flexibility for different types of wetland projects that have varying rates of carbon sequestration, different baseline conditions, and varying GHG emissions.

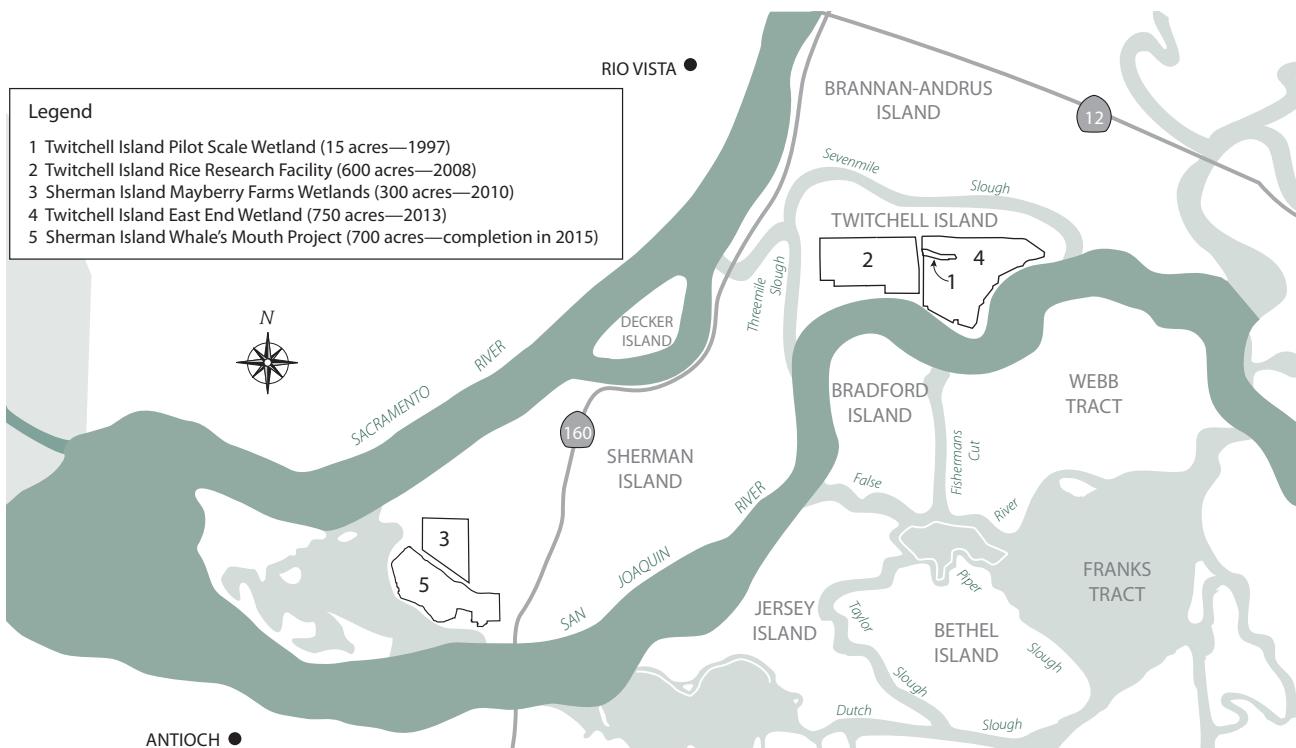
Additionally, the West Delta Program expanded its partnership with the University of California, Berkeley, to begin analyzing GHG emissions from farming activities in the Delta. This data, along with data collected on wetland crops, will be used to develop and calibrate models for GHG sequestration estimates necessary for the GHG protocol.

The West Delta Program also completed construction of a 750-acre wetland on the east end of Twitchell Island (see Figure 2-3). Features include more than 8 miles of berms needed to terrace the land into cells for appropriate water depth, approximately 30 water-control structures, and a pump station allowing on-island seepage and agricultural drainage to be used as irrigation water for the project.

Planning and design was initiated for a habitat restoration project on the southwest portion of Sherman Island. This project, known as the Whale's Mouth Project (see Figure 2-3), includes filling in a scour pond that threatens levee stability and converting the area to upland habitat, while creating approximately 600 acres of wetlands in the adjacent pasture. The project is scheduled to be completed during the summer of 2015.

## Delta Agricultural Water Agencies

In 1974, the Delta Water Agency was replaced by six Delta agricultural water



**Figure 2-3 Selected West Delta Program Projects**

agencies: North Delta Water Agency, South Delta Water Agency, Central Delta Water Agency, Contra Costa County Water Agency, East Contra Costa Irrigation District, and Byron-Bethany Irrigation District. In 1981, North Delta Water Agency and East Contra Costa Irrigation District signed water rights management contracts with DWR. DWR negotiated contracts and requested negotiations with other agencies to provide water level, circulation, and quality needs in certain areas.

### South Delta Water Agency Contract

In September 1990, DWR completed negotiations for a long-term agreement with South Delta Water Agency and Reclamation. Under the South Delta Water Agency contract, the parties agreed to proceed with the design, construction, and operation of certain barrier facilities in the South Delta channels. These facilities resolved portions of the lawsuit that South Delta Water Agency

filed in 1982 regarding the alleged effects of export pumping by the SWP and CVP on water levels, quality, and circulation in the South Delta.

DWR has installed and operated temporary barrier facilities in the South Delta to improve area conditions, and collect data needed to design and operate permanent barrier facilities. Ongoing efforts are being made to improve water levels, circulation, and quality in South Delta channels. These efforts have included modifying and dredging around local diverters' intakes, conducting a series of computer modeling studies, and modifying barrier flap gate operations.

In June 2013, DWR raised the Middle River weir by 1 foot to increase the water level and to improve circulation in certain areas upstream of the barrier.

## Western Delta Municipal Water Users

DWR signed contracts with Contra Costa Water District in 1967 and the City of Antioch in 1968. These contracts compensate Contra Costa and Antioch for purchasing water of usable quality when such water is not available from Mallard Slough and the San Joaquin River.

According to the contracts, DWR compensates each agency for the additional costs of purchasing a substitute water supply from the Contra Costa Canal. This water is purchased to replace water supplies of usable quality that are lost due to SWP operations. Credits for the number of days of above-average water supplies of usable quality, from Mallard Slough and the San Joaquin River, accrue to offset the number of below-average days in future years.





## Chapter 3

## Environmental Programs

*Juvenile Chinook Salmon (Oncorhynchus tshawytscha).*

## Significant Events in 2013

**O**n April 9, 2013, a court order extended the deadlines for completion of new U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NOAA Fisheries) biological opinions (BiOps) for Central Valley Project (CVP) and State Water Project (SWP) long-term operations. The new deadlines are December 1, 2014, and February 1, 2017, respectively.

On December 13, 2013, the draft Bay Delta Conservation Plan (BDCP) and its associated environmental impact report (EIR)/environmental impact statement (EIS) were released for public comment. The 9,000-page public draft BDCP and its corresponding 25,000-page EIR/EIS underwent significant revisions since the informal release of the second administrative draft earlier in 2013. A significant change to the proposed tunnels was announced in August 2013.

In December 2013, quagga mussels were discovered in Lake Piru in Ventura County. Due to the possibility for mussels to be introduced to Pyramid and Castaic lakes from Lake Piru, monitoring efforts were immediately increased at Pyramid and Castaic lakes. All additional samples were negative for quagga mussels.

*Information in this chapter was contributed by the Division of Environmental Services, the Division of Operations and Maintenance, the Division of Integrated Regional Water Management, and the State Water Project Analysis Office.*

The Department of Water Resources (DWR) has developed and implemented several programs to avoid, minimize, and/or offset adverse environmental impacts resulting from construction and operation of State Water Project (SWP) facilities.

## Operations for Species of Concern

A primary consideration in the operation of the SWP is avoiding, minimizing, and/or offsetting adverse impacts to species of concern, species listed as threatened or endangered by a State or federal agency, or species proposed for listing. The SWP is operated pursuant to biological opinions (BiOps) issued under the federal Endangered Species Act (ESA), and consistency determinations or incidental take permits issued under the California Endangered Species Act (CESA). A key to avoiding and minimizing adverse impacts to these species is maintaining flexibility in SWP operations. Operational responses can include Delta Cross Channel gate closure, export curtailments, changes in delivery schedules, increased reservoir releases, preferential use of certain facilities, or a combination of these actions.

Additional information can be found in Chapter 7, Water Supply Development and Reliability.

## San Joaquin River Restoration Program

The San Joaquin River Restoration Program is a comprehensive long-term effort to restore flows to the San Joaquin River from Friant Dam to the confluence of the Merced River and restore a self-sustaining Chinook Salmon fishery in the river, while reducing or avoiding adverse water supply impacts from restoration flows.

In early 2013, the Department of Fish and Wildlife (DFW) began operating the Interim

San Joaquin Salmon Conservation and Research Facility for the San Joaquin River Restoration Program. This facility will allow for the development and maintenance of a genetically diverse brood stock of spring-run Chinook Salmon for eventual release into the San Joaquin River. This interim facility will be operated and maintained until the full-scale conservation facility is constructed and operating. The draft environmental impact report (EIR) for the proposed Salmon Conservation and Research Facility was released for public review in October 2013.

Planning, environmental compliance, and design efforts for the Mendota Pool Bypass and Reach 2B Channel Improvements Project and the Reach 4B, Eastside Bypass, and Mariposa Bypass Channel and Structural Improvements Project continued to move forward.

The fourth and final year of interim San Joaquin River flows ended on December 31, 2013. Under the water management goal, approximately 90,000 acre-feet of these interim flows were recaptured and recirculated by the end of the water contract year (March 2013 through February 2014).

More information is available on San Joaquin River Restoration Program's website.

## Lower Yuba River Accord

The Lower Yuba River Accord's purpose is to resolve instream flow issues and protect and enhance lower Yuba River fisheries and local water supply reliability. The Lower Yuba River Accord provides revenues for local flood control and water supply projects, water to enhance SWP and Central

Valley Project (CVP) water supply reliability by offsetting Delta export reductions for protection and restoration of Delta fisheries, and improvements in statewide water supply management, including dry year supplies for participating SWP and CVP contractors.

Water contracted by DWR under the Lower Yuba River Accord (Component 1 water) continues to be used to help offset Delta export reductions to benefit fish. In 2013, Yuba County Water Agency delivered 60,000 acre-feet of Component 1 water provided to DWR under the 2007 DWR/Yuba County Water Agency Water Purchase Agreement. Under an agreement signed in 2012, DWR and the Bureau of Reclamation (Reclamation) equally share Component 1 water made available from 2012 through 2015.

For more information about the Lower Yuba River Accord, see Chapter 9, Water Contracts and Deliveries.

## Oroville Facilities

### Existing Federal Energy Regulatory Commission License Activities

#### Invasive Plant Management

During 2013, DWR removed all red sesbania (*Sesbania punicea*) along the Thermalito Power Canal, Thermalito Forebay, and Thermalito Diversion Pool as part of annual maintenance started by the Department of Parks and Recreation in 2007. DWR took over in 2008 and will continue until red sesbania is eradicated in these areas. The Thermalito Power Canal, Forebay, and Diversion Pool are the upstream extent of the red sesbania population on the Feather River. Also, *Dittrichia graveolens* (stinkwort) was observed in many new locations. This species wasn't a concern until 2011, but was much more widespread in 2013. Stinkwort plants were hand-pulled at several locations, and DWR is looking into other management options.

DWR also partners with other agencies to remove invasive plants within areas of joint management. In 2013, DWR partnered with the Butte County Agricultural Commissioner to treat skeleton weed (*Chondrilla juncea*) and red sesbania. Butte County has been annually treating skeleton weed near McCabe Creek at Lake Oroville and near Ponderosa Reservoir. There are several stands of red sesbania that are adjacent to the Thermalito Power Canal and Thermalito Forebay, but not within the DWR boundary that Butte County treats.

#### Feather River Fish Hatchery

In 2013, a total of 7,045,310 juvenile fall-run Chinook Salmon (*Oncorhynchus tshawytscha*) were released into the Delta, the Sacramento River, and the San Francisco and San Pablo bays.

Also in 2013, a total of 2,159,091 spring-run Chinook Salmon were released: 1,033,174 in San Pablo Bay and 1,125,917 in the Feather River. Additionally, 377,536 steelhead were planted in the Feather River at Boyd's Pump Boat Launch.

#### Lake Oroville and Thermalito Afterbay

Beginning in 2013, Coho Salmon (*Oncorhynchus kisutch*) were not stocked in Lake Oroville. The Coho Salmon stocking totals, dating back to 2002 when DWR began this program, are shown in Table 3-1.

**Table 3-1 Numbers and Sizes of Coho Salmon Stocked in Lake Oroville by DWR, 2002–2012**

| Year  | Fingerlings | Yearlings | Adults | Total     |
|-------|-------------|-----------|--------|-----------|
| 2002  | 50,249      | 128,280   |        | 178,529   |
| 2003  | 39,222      | 133,570   |        | 172,792   |
| 2004  |             |           |        |           |
| 2005  |             | 58,802    |        | 58,802    |
| 2006  |             | 249,827   | 1,299  | 251,126   |
| 2007  |             | 133,758   |        | 133,758   |
| 2008  | 363,800     |           |        | 363,800   |
| 2009  |             | 256,542   |        | 256,542   |
| 2010  |             | 184,415   |        | 184,415   |
| 2011  |             | 229,400   |        | 229,400   |
| 2012  | 79,600      | 211,600   |        | 291,200   |
| Total | 532,871     | 1,586,194 | 1,299  | 1,935,949 |

The revised stocking plan will continue with Chinook Salmon. In May 2013, 91,788 Chinook Salmon were stocked in the lake. The salmon were stocked at the advanced fingerling size in May instead of growing them out to the yearling size for stocking in the fall. This was the result of an anticipated maintenance project that was to occur at the Feather River Fish Hatchery (FRFH) during summer 2013, when the 40-year-old, 60-inch diameter raw water intake line for the FRFH was scheduled for inspection. In order to inspect and repair the pipeline, the FRFH needs to be shut down and dewatered. This was supposed to occur in July 2013, but was postponed until 2014.

Also in 2013, 11,000 FRFH surplus steelhead were planted in Thermalito Afterbay.

### Oroville Wildlife Area

Revegetation and weed removal activities continued during 2013 at two newly established wetland ponds in the Oroville Wildlife Area. These wetland ponds were created as mitigation required in a 1995 U.S. Army Corps of Engineers Clean Water Act Section 404 permit for a project that constructed two waterfowl brood ponds at the Thermalito Afterbay. The wetland ponds project converted a 20-acre area of low quality, disturbed, upland habitat into 10 acres of emergent wetland and 10 acres of riparian habitat. The waterfowl brood ponds were a requirement of the revised recreation plan that was part of the Federal Energy Regulatory Commission's (FERC) September 22, 1994, order.

Also during 2013, DWR installed a water temperature gauge in the Oroville Wildlife Area at the downstream FERC project boundary (near Gridley). The data can be accessed in 15-minute intervals at the California Data Exchange Center website (Station ID: FOW).

### Oroville State Recreation Area

The Brad B. Freeman Bike Trail Realignment Project was completed in 2013. The project realigned and improved approximately 0.85 miles of the existing trail along the east bank of the Thermalito Diversion Pool and the Fish Barrier Dam pool.

### Lake Oroville Elevation

A number of aspects of the Oroville Facilities can be affected by lake surface elevation including:

- habitat;
- flora and fauna of the lakeshore area and upstream tributaries;
- recreation;
- water quality;
- water temperature;
- shoreline and lakebed stability and erosion;
- flood storage capacity;
- power generation; and
- streamflow requirements (downstream of the lake).

The 2013 low point for the Lake Oroville reservoir elevation was reached on December 31 at 704.1 feet, and the annual high point of 871.8 feet was reached on April 23. The full pool elevation of Lake Oroville is approximately 900 feet.

### Federal Energy Regulatory Commission Relicensing Activities

Various conservation measures for the species identified in the U.S. Fish and Wildlife Service (USFWS) 2007 BiOp for the Oroville Facilities relicensing project continued to be implemented on SWP lands. Monitoring associated with these measures includes an annual vernal pool survey (645 mapped vernal pools and/or features); protective measures for elderberry shrubs (*Sambucus* species, host plant for the valley elderberry longhorn beetle

[*Desmocerus californicus dimorphus*]); and annual monitoring of nesting Bald Eagles (*Haliaeetus leucocephalus*) in the area (five currently active nests). In addition, habitat management activities within the Oroville Wildlife Area are coordinated through DFW staff. These activities include providing nest and forage habitat for waterfowl and upland bird species, monitoring and maintaining Thermalito Afterbay brood pond water surface elevations, and protecting and conserving Giant Garter Snake (*Thamnophis gigas*) habitat. An annual compliance report for 2013 was compiled by DWR and submitted to USFWS.

For more information about Oroville Facilities relicensing, see Chapter 10, Power Resources.

## Invasive Species

### Quagga and Zebra Mussel Monitoring and Assessment

The quagga mussel, *Dreissena rostriformis bugensis*, and the zebra mussel, *D. polymorpha*, are invasive freshwater mussels that pose a significant threat to the SWP. Both species attach to hard substrates, including other mussels, with strong byssal threads, forming dense colonies and causing significant biofouling impacts to raw water infrastructure by clogging small diameter piping and filters and encrusting trash racks and fish screens.

In early 2007, the quagga mussel was detected in the lower Colorado River and spread throughout connected water diversion systems (see Bulletin 132-08). The following year, the zebra mussel was detected in San Justo Reservoir in San Benito County, adding to the existing threat. In response, DWR formed the Aquatic Nuisance Species Program within the Division of Operations and Maintenance. The program includes applied studies, early detection monitoring, vector management,

rapid response planning, long-term mussel management, and public outreach.

### Applied Studies

**Assessment of Habitat Suitability.** DWR's consultant, RNT Consulting Inc. (see Bulletin 132-11), examined the suitability of the SWP to support long-term populations of quagga and zebra mussels (dreissenids) if unintentionally introduced. Based on the results, locations in the SWP were classified into one of three groups: unable to support, potentially able to support, or able to support long-term populations of dreissenid mussels (see Bulletin 132-12). Understanding where dreissenid mussels may survive in the SWP will be used to prioritize management efforts.

### Development of Control Methods.

RNT Consulting Inc. conducted bench-top chemical mussel control trials in mobile flow-through laboratories at San Justo Reservoir and at Davis Dam on the Colorado River. The chemicals tested included several copper-based algaecides, peroxide, sodium carbonate peroxyhydrate, and two endothall herbicide formulations (see Bulletin 132-13). The results are under analysis and are anticipated to be available in 2014.

**Early Detection Monitoring.** DWR routinely monitors the California Aqueduct, SWP reservoirs, and the Sacramento-San Joaquin Delta for the presence of quagga and zebra mussels. DWR uses three different methods to monitor for mussels: zooplankton tows (with DNA analysis) for veligers; settlement plates (see Bulletin 132-10); and bioboxes for adults (attached/settled stage).

In 2013, DWR and two collaborating water agencies, Santa Clara Valley Water District and The Metropolitan Water District of Southern California, collected veliger samples at 16 locations (see Bulletin 132-10). In addition, DWR staff are trained in quagga and zebra mussel identification, and are instructed to look for mussels during

regular field work and during routine facility maintenance activities. No mussels were detected in the SWP, the Delta, or other SWP source water during 2013.

### **Prevention and Response Planning**

To protect and prepare the SWP against mussels, Aquatic Nuisance Species Program staff developed several planning documents to guide actions and identify vulnerabilities. The *Quagga and Zebra Mussel Vector Management Plan for the State Water Project* identifies potential mussel points-of-entry and vectors, and outlines mechanisms to reduce the risk of introduction. The two primary vectors of mussels are downstream transport of planktonic veligers in natural and constructed waterways and overland transport of veligers and attached adults on watercraft. A critical component of the vector management plan is reducing the risk posed by watercraft. To accomplish this, DWR contracted with the California Department of Parks and Recreation and the Los Angeles County Department of Parks and Recreation to implement vessel inspection and outreach programs at San Luis State Recreation Area (San Luis Reservoir, O'Neill Forebay, and Los Banos Creek Reservoir) and Pyramid and Castaic lakes (see Bulletin 132-12).

At San Luis State Recreation Area, a total of 11,911 vessels were inspected during 2013. Of those vessels, 277 failed the inspection due to the presence of wet equipment or standing water and were not allowed to launch. At Castaic Lake, a total of 10,212 vessels were inspected, and 256 failed the inspection. At Pyramid Lake, 6,062 vessels were inspected, with 229 failures. No mussels were found during the inspections.

In December 2013, quagga mussels were discovered in Lake Piru, operated by United Water Conservation District, in Ventura County. Lake Piru is in close proximity to

Pyramid and Castaic lakes and participated in a "reciprocal banding" program with Pyramid and Castaic. This means that vessels that passed inspection at any of the three lakes and received a "clean vessel" band could subsequently launch at any of the three lakes without undergoing additional inspection. Between September 1 and December 18, 2013, 265 boats were allowed to bypass inspections and launch directly into Pyramid and Castaic lakes after visiting Lake Piru. The practice of honoring Lake Piru inspections was immediately discontinued once DWR was notified of the discovery of quagga mussels.

Sampling for veligers had been routinely conducted at Pyramid and Castaic lakes since 2008, and all samples had been negative. Due to the possibility that mussels were introduced to Pyramid and Castaic lakes from Lake Piru, monitoring efforts were immediately increased. Additional sampling for veligers was conducted, and additional settlement plates were deployed. All additional samples were negative for quagga mussels. Continued increased sampling is planned for 2014 to ensure that Pyramid and Castaic lakes are not infested.

In the event mussels are detected in the SWP, the *Quagga and Zebra Mussel Rapid Response Plan for the State Water Project* outlines a course of action to confirm the sighting; delineate the population; implement containment and eradication measures; and notify State and federal partner agencies, the SWP water contractors, and any potentially impacted entities.

With uncontrolled watercraft access to and from infested bodies of water, such as the Colorado River, the SWP and the Delta remain vulnerable to mussel infestation. Therefore, DWR is preparing a long-term mussel management plan that identifies facility vulnerabilities and outlines both short-term and long-term options to prevent or mitigate mussel biofouling impacts for all

at-risk SWP facilities. The short-term control strategies are those that can be implemented within a few weeks to a few months time and may be temporary in nature, such as shutdowns for power washing and shell removal. The long-term control strategies have longer implementation times (6 months to multiple years) and are permanent in nature (alterations to infrastructure).

RNT Consulting Inc. is assisting DWR with plan preparation. The first phase of the project focused on Southern Field Division facilities, as RNT Consulting Inc. determined that all facilities located downstream of Check 41 are at the highest risk of mussel establishment. RNT Consulting Inc. and DWR Aquatic Nuisance Species Program staff conducted facility site visits, focusing on raw water infrastructure, and determined the areas vulnerable to mussel biofouling. The report for Southern Field Division facilities was completed in September 2012. The report for the Delta, San Luis, and San Joaquin field divisions was completed in December 2013. As a follow up to the management plan reports, RNT Consulting Inc. will develop cost estimates for facility retrofit implementation.

## The Bay Delta Conservation Plan

In 2013, State and federal agencies continued their collaborative efforts to refine and complete the analyses and documentation necessary to finalize a public draft of the Bay Delta Conservation Plan (BDCP) and the corresponding EIR/environmental impact statement (EIS). Preliminary administrative drafts of both documents were released to the public in the spring.

In August 2013, DWR announced changes to the proposed water conveyance tunnels. These changes included decreasing the intermediate forebay from 750 to 40 acres

and realigning a segment of the tunnels to the east to shift construction impacts from private to public lands. The purpose of these changes was to reduce the effects of the project on Delta residents. In total, the proposed August 2013 changes would decrease the permanent water conveyance project footprint from 3,654 acres to 1,851 acres.

On December 13, 2013, the draft BDCP and its associated EIR/EIS were released for public comment. The 9,000-page public draft BDCP and its corresponding 25,000-page EIR/EIS underwent significant revisions since the informal release of the second administrative draft earlier in 2013. Some revisions included changes to the alignment of the proposed water conveyance tunnels, more detail about the adaptive management process, refinement and revision of how the plan would be governed, additional design criteria and operational constraints for the proposed north Delta intakes, and additional measures to protect the Greater Sandhill Crane (*Grus canadensis tabida*), Giant Garter Snake, and Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*).

The public comment period was expected to last 120 days from the release date. Citizens, organizations, and government agencies were urged to review and comment on the documents.

## Effects Analysis Review Continued

Because the BDCP will alter the physical and biological environment of the Delta, it includes an effects analysis to describe predicted effects on biological performance, particularly with regard to covered species' population levels. The effects analysis will be the foundation for the biological assessment and subsequent BiOp issued by the federal agencies. It is a systematic, scientific look at both potential impacts and potential benefits from conservation actions.

In 2013, an independent science review panel, convened by the Delta Stewardship Council in 2011, continued to assess the scientific quality of the effects analysis. This third and final phase of the effects analysis review effort will culminate in a final report summarizing the panel's comments on the effects analysis. The report is expected to be completed and released in the winter of 2014.

## Environmental Surveys

DWR continued conducting wetland field surveys using the California Rapid Assessment Method to evaluate the condition of wetlands as part of an ongoing effort to collect environmental data for the Delta Habitat Conservation and Conveyance Program, a program focused on engineering and associated with the BDCP. DWR also continued conducting wetland delineations to assess wetland impacts in the project footprint and develop a jurisdictional determination to be approved by the U.S. Army Corps of Engineers.

## Geotechnical Monitoring

DWR's geotechnical monitoring for the BDCP was put on hold until the record of decision/notice of determination is complete.

## Biological Opinions Issued on CVP/SWP Operations

The National Marine Fisheries Service (NOAA Fisheries) and USFWS have both issued BiOps on CVP and SWP operations that include reasonable and prudent alternatives (RPAs) to avoid jeopardy of federally listed species. Both BiOps have been remanded by the federal court.

In December 2012 and March 2013, a joint motion for an extension of the remand schedule was filed with the court. The remand process is allowing DWR, DFW, Reclamation, USFWS, and NOAA Fisheries

to undertake a collaborative adaptive management approach to interim operations under the existing BiOps; enabling a more efficient and focused evaluation of RPAs; allowing joint completion of new BiOps and the associated National Environmental Policy Act (NEPA) process; and testing the type of science program proposed under the BDCP.

On April 9, 2013, a 1-year extension (with the potential for two additional 1-year extensions) was granted by the U.S. District Court for the Eastern District of California. The extension was based on the development of the Collaborative Science and Adaptive Management Program. The program was formed in May 2013 to produce information developed through a collaborative science process that is directly relevant to management actions in the Delta and can be used to manage operations in a way that protect fish while providing for greater water supply reliability. The court order required a joint status report to be submitted by February 15, 2014.

The Delta Science Program conducted the 2013 Long-term Operations Biological Opinions Annual Science Review in November.

## USFWS Biological Opinion

The jeopardy conclusion of the 2008 USFWS BiOp was upheld based on federal court findings that fish entrainment at the pumping facilities will adversely affect Delta Smelt (*Hypomesus transpacificus*). However, because the science supporting flow prescriptions in the BiOp was questioned, and the economic and technical feasibility of the RPAs was not considered, the BiOp was remanded (March 2011). The court set a deadline for development of a new Delta Smelt BiOp, RPAs, and NEPA review by Reclamation to be completed by December 1, 2013. The April 9, 2013, court order sets a new deadline of December 1, 2014.

## NOAA Fisheries Biological Opinion

The 2009 NOAA Fisheries BiOp was amended in 2011 with updates to the RPAs including improvements to real-time operations and data collection, as well as clarification of specific actions.

In September 2011, a federal court upheld the jeopardy conclusion of the 2009 NOAA Fisheries BiOp, but found that the RPAs were not adequately justified or supported by the record. The court directed a remand of the BiOp. In December 2011, the court ordered that a new draft BiOp be transmitted by October 1, 2014, and a final BiOp by

February 1, 2016. The April 9, 2013, court order extended the deadline for the new BiOp to February 1, 2017.

## EIS for the Remanded Biological Opinions

Reclamation initiated a combined NEPA process for both BiOps. An EIS will be prepared with Reclamation as the lead agency and DWR as a cooperating agency. The deadline for the EIS coincides with the court-ordered deadlines for the BiOps. The scoping process was completed in 2012, and the scoping report was published in February 2013.

## Endangered Species and Biological Opinions

An endangered species is one in danger of extinction in all or a significant portion of its range; a threatened species is one likely to become endangered. The Endangered Species Act (ESA) and the California Endangered Species Act (CESA) are designed to protect threatened and endangered species by ensuring federal and State agencies adopt measures to protect the species during the design, construction, and operation of projects, or for other forms of agency action, and prohibit the unauthorized take of endangered species. Biological opinions and incidental take permits are issued to protect ESA- and CESA-listed species.

ESA Section 7 requires federal agencies to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species or modify their critical habitat, otherwise formal consultation is required. Federal agencies must consult with the U.S. Fish and Wildlife Service and/or the National Marine Fisheries Service (the wildlife agencies). As part of the consultation process, the wildlife agency issues a biological opinion which states the agency's determination of whether the action is likely to jeopardize a species or adversely modify critical habitat. If the wildlife agency determines an action will jeopardize or adversely modify, it will suggest reasonable and prudent alternatives that the "action agency" may take to avoid the likely jeopardy or adverse modification (Title 16, United States Code Sections 1531–1544 [1973]).

CESA is substantially similar to ESA in all aspects (California Fish and Game Code Sections 2050–2098 [1984]). Under CESA, an incidental take permit issued by the Department of Fish and Wildlife can allow for the take of State-listed species if specific criteria are met, including measures to minimize and mitigate the impacts of authorized take (California Code of Regulations, Title 14, Sections 783.0–783.8).

With DWR's assistance, Reclamation began developing alternatives for the EIS (including the no action alternative and second basis of comparison) with a placeholder for a sixth alternative based on the proposed action being developed for the biological assessment. All work proceeded in order to complete the EIS by the new court-ordered deadlines.

## Delta Operations for Delta Smelt and Longfin Smelt

The Smelt Working Group (an interagency team of experts on Delta Smelt and Longfin Smelt [*Spirinchus thaleichthys*] biology) meets regularly from December through June to assess the risk to Delta Smelt and Longfin Smelt from CVP and SWP export facilities. Based on near real-time technical information, such as fish distribution, salvage, and physical water conditions, the Smelt Working Group makes recommendations on export operations to the USFWS and DFW with the goal of reducing entrainment of the two species.

Recommendations are based on guidelines outlined in the 2008 USFWS BiOp and the 2009 DFW Longfin Smelt incidental take permit (see Bulletins 132-11 and 132-12).

The Smelt Working Group made several recommendations to alter export operations during the 2012–2013 water year, due to early flow and turbidity pulses and elevated levels of Delta Smelt salvage. Beginning in early December and continuing through mid-January, Delta Smelt salvage at the export facilities approached the concern level specified in the 2008 BiOp. Based on working group recommendations, the USFWS issued 13 determinations from December 2012 through March 2013, requiring that exports did not produce average Old and Middle river flows more negative than specified amounts. Restrictions ranged from flows no more negative than -1,250 cubic feet per second, to flows no more negative

than -5,000 cubic feet per second. From April 8 to June 30, the Smelt Working Group determined that operations following the minimum protections of the 2008 USFWS BiOp (e.g., -5,000 cubic feet per second) were sufficiently protective and did not recommend further reductions to operations.

## Fish Restoration Program

Pursuant to the USFWS and NOAA Fisheries BiOps and the DFW Longfin Smelt incidental take permit (see Bulletin 132-11), the Fish Restoration Program (FRP) has continued to make progress towards fulfilling its restoration requirements.

In February 2013, the *Stakeholder Assessment Summary and Communications & Engagement Plan* were completed and made available on the FRP website.

Stakeholder outreach in 2013 included 25 meetings with stakeholders, individuals, and public agencies. Efforts have been made to keep those stakeholders who will be most affected by the Prospect Island restoration project apprised of DWR's proposed restoration design alternatives. The FRP has been diligent in keeping other Delta stakeholders updated with the program's purpose and engaging in early consultation with regulatory agencies.

Interim land management of Prospect Island continued in 2013. DWR established legal access, and a levee inspection in March 2013 along Miner Slough revealed sites that need to be repaired or at least monitored for further deterioration. The FRP and Division of Engineering staff worked to enable the more urgent repairs to be made during the 2014 work window allowed under the Prospect Island streambed alteration agreement. A mitigated negative declaration and necessary permit applications are expected in early 2014.

The summary report for the October 2012 Delta Regional Ecosystem Restoration Implementation Plan, Prospect Island workshop was released in February 2013. The report included recommendations of alternative design options for further consideration and environmental documentation. Early consultation with the U.S. Army Corps of Engineers led to the exclusion of restoration alternatives with breaches in the Deep Water Ship Channel. The FRP continued to work with its consulting team on more detailed modeling and evaluation of restoration design. Final alternatives to be evaluated in the EIR will be chosen in 2014.

On May 17, 2013, DWR released a notice of preparation for the Prospect Island Tidal Habitat Restoration Project. A public scoping meeting was held on June 10, 2013. Written and verbal comments on the notice of preparation were compiled into an FRP stakeholder database, and a California Environmental Quality Act (CEQA) scoping report was produced (available on the FRP website under the Prospect Island project link). These comments will be incorporated into the public draft EIR, which is expected to be released in early 2015.

The FRP provided funds for the Battle Creek Salmon and Steelhead Restoration Project in 2011 and 2012 (see Bulletin 132-13). DWR continued to work with NOAA Fisheries in 2013 to demonstrate that DWR has fully complied with RPA Action I.2.6. NOAA Fisheries responded in a letter dated May 6, 2013, that it does not agree that compliance has been met. DWR's Office of the Chief Counsel is considering this matter.

DWR purchased the 245-acre Overlook Club property in February 2013 for tidal habitat restoration under the FRP. The Overlook Club (Property 322) is one of three properties on Bradmoor Island, located within the Nurse Slough Complex of Suisun Marsh in Solano County. Interim management in 2013 included repair of a levee breach caused by beaver damage. Restoration goals and objectives were developed, and DWR staff began working with consultants to develop models for evaluating design alternatives.

## Decisions on Endangered Species

Table 3-2 lists fish species of concern found in the Delta. No status changes were made in 2013.

**Table 3-2 Special Status Delta Fish Species**

| Common Name                         | Scientific Name                 | Date of Listing or Action          |                        |
|-------------------------------------|---------------------------------|------------------------------------|------------------------|
|                                     |                                 | ESA                                | CESA                   |
| Delta Smelt                         | <i>Hypomesus transpacificus</i> | threatened <sup>a</sup> (4/5/1993) | endangered (1/20/2010) |
| Longfin Smelt                       | <i>Spirinchus thaleichthys</i>  | candidate <sup>b</sup> (4/2/2012)  | threatened (4/9/2010)  |
| Chinook Salmon (winter-run)         | <i>Oncorhynchus tshawytscha</i> | endangered (2/3/1994)              | endangered (9/22/1989) |
| Chinook Salmon (spring-run)         | <i>Oncorhynchus tshawytscha</i> | threatened (11/15/1999)            | threatened (2/5/1999)  |
| Chinook Salmon (fall/late fall-run) | <i>Oncorhynchus tshawytscha</i> | species of concern (4/15/2004)     | none                   |
| steelhead (Central Valley DPS)      | <i>Oncorhynchus mykiss</i>      | threatened (5/18/1998)             | none                   |
| Green Sturgeon (Southern DPS)       | <i>Acipenser medirostris</i>    | threatened (6/6/2006)              | none                   |

ESA = federal Endangered Species Act; CESA = California Endangered Species Act; DPS = distinct population segment

<sup>a</sup> In April 2010, the USFWS found that reclassification of Delta Smelt from threatened to endangered was warranted but precluded by other higher priority listing actions.

<sup>b</sup> On April 2, 2012, the USFWS found that listing the San Francisco Bay-Delta DPS as threatened or endangered was warranted but precluded by other higher priority listing actions and has added the San Francisco Bay-Delta DPS of Longfin Smelt to its list of candidate species.

## Trends in Fish Abundance

Abundance indices for Longfin Smelt and Delta Smelt are based on DFW fall midwater trawl sampling conducted every year from September through December. Index calculations are based on average catch per trawl for 100 core index stations, which are partitioned into 14 geographic areas. The average monthly catch per tow in each area is multiplied by a weighting factor that is based on the estimated volume of water in each area. The resulting values are then summed over all areas and months to obtain the annual index. This fall abundance index serves as an indicator for adult Longfin and Delta Smelt populations over a relatively long period of time.

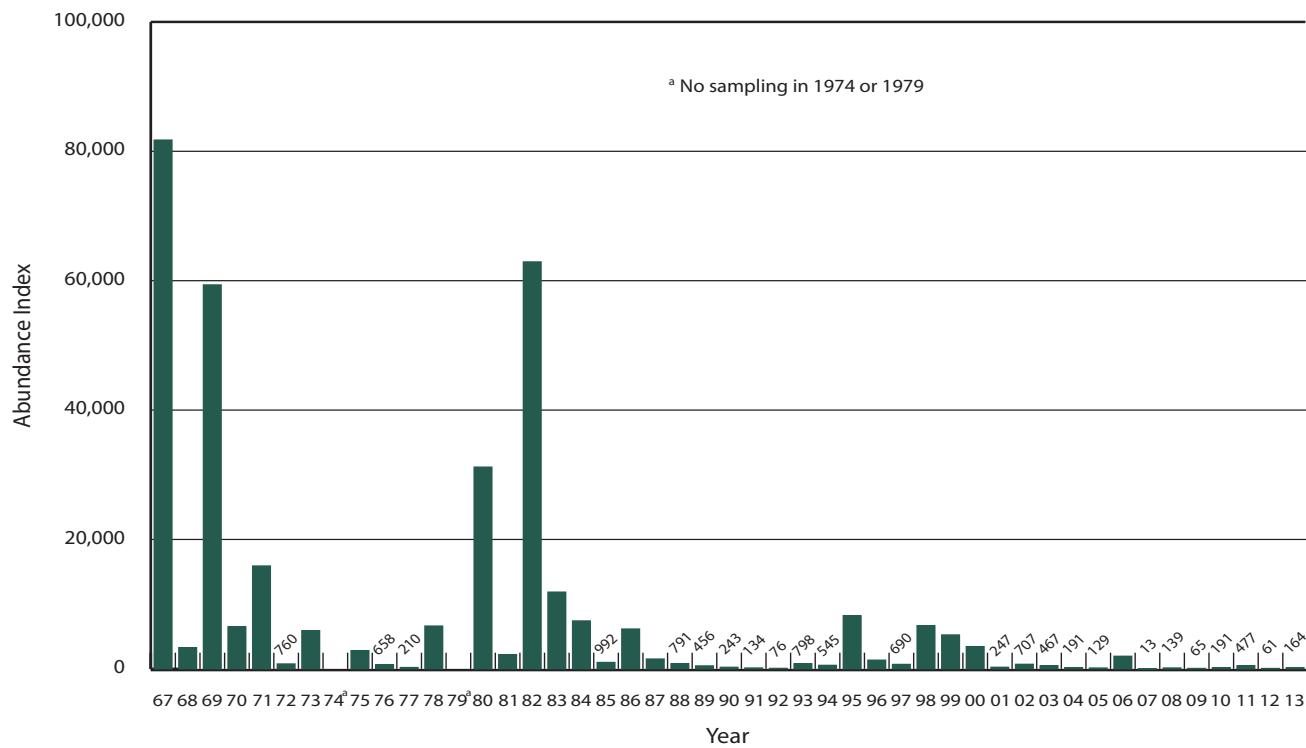
The abundance index for Longfin Smelt from 1967 through 2013 is shown on Figure 3-1. Values for 2013 rose slightly over the previous year, but remained similar

to the very low levels observed over the last decade.

Figure 3-2 shows the abundance index for Delta Smelt from 1967 through 2013. After a brief rise in 2011, the index dropped back down in 2012 to levels consistent with the persistently low indices observed from 2002–2010. This trend continued in 2013, with the index dropping further to the second lowest level on record.

For more about the declining abundance of Delta Smelt and other pelagic fish species in the Delta, see the Pelagic Organism Decline section in this chapter.

Figure 3-3 shows estimates of returning adult winter-run Chinook Salmon from 1970 through 2013. These estimates, referred to as escapement estimates, are the number of adults that escape mortality and return to spawn. The Sacramento River winter-run Chinook Salmon escapement estimates



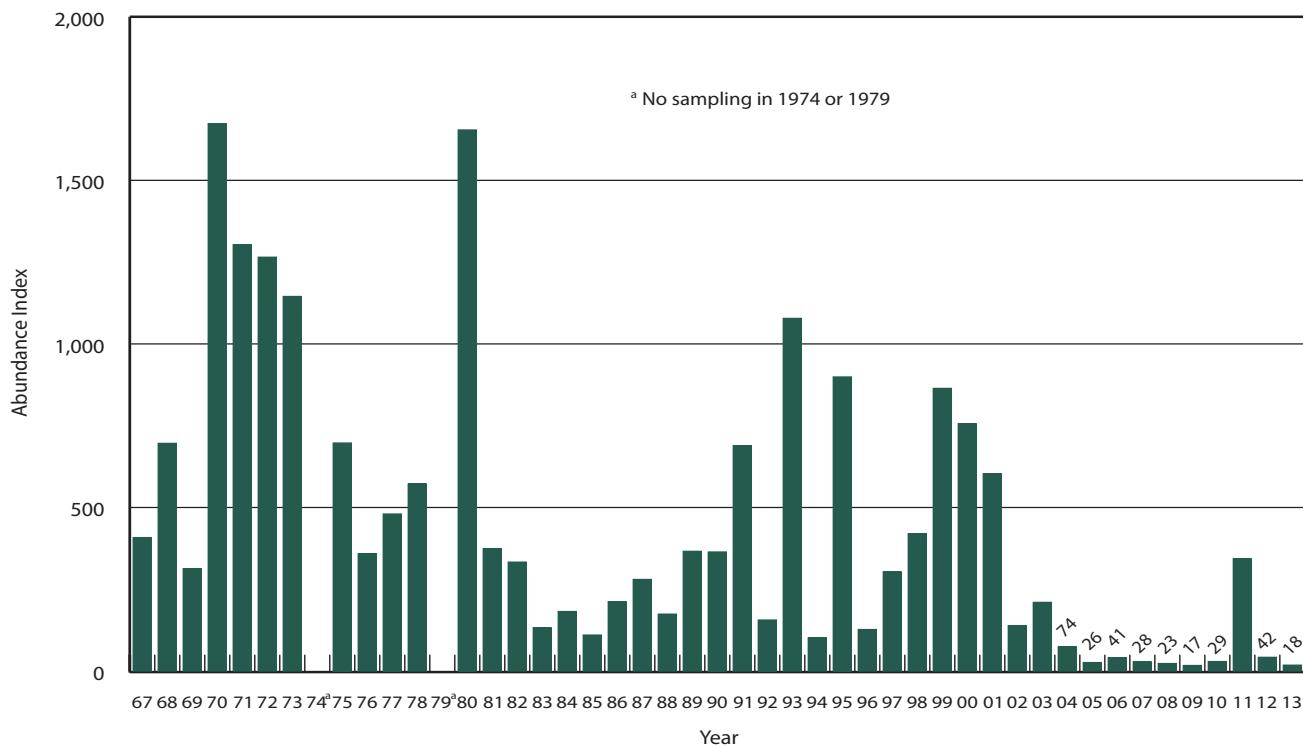


Figure 3-2 Delta Smelt Fall Midwater Trawl Abundance Index, 1967–2013

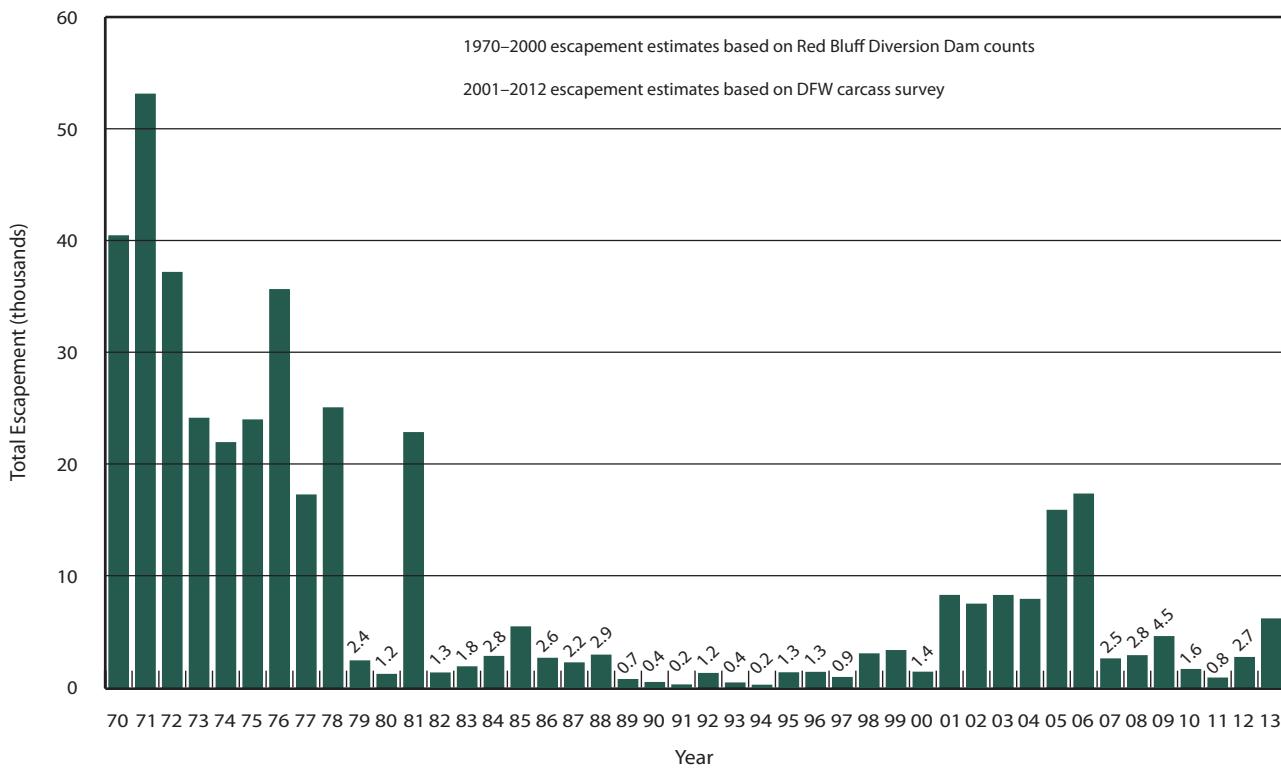


Figure 3-3 Estimated Total Adult Winter-run Chinook Salmon Escapement, 1970–2013

are generated using data from the DFW carcass survey. DFW has been using the carcass survey data to generate escapement estimates since 2001, prior to which Red Bluff Diversion Dam counts were used. The estimated winter-run Chinook Salmon escapement for 2013 was 6,123, which was more than two times higher than in 2012, but lower than values observed from 2001 to 2006.

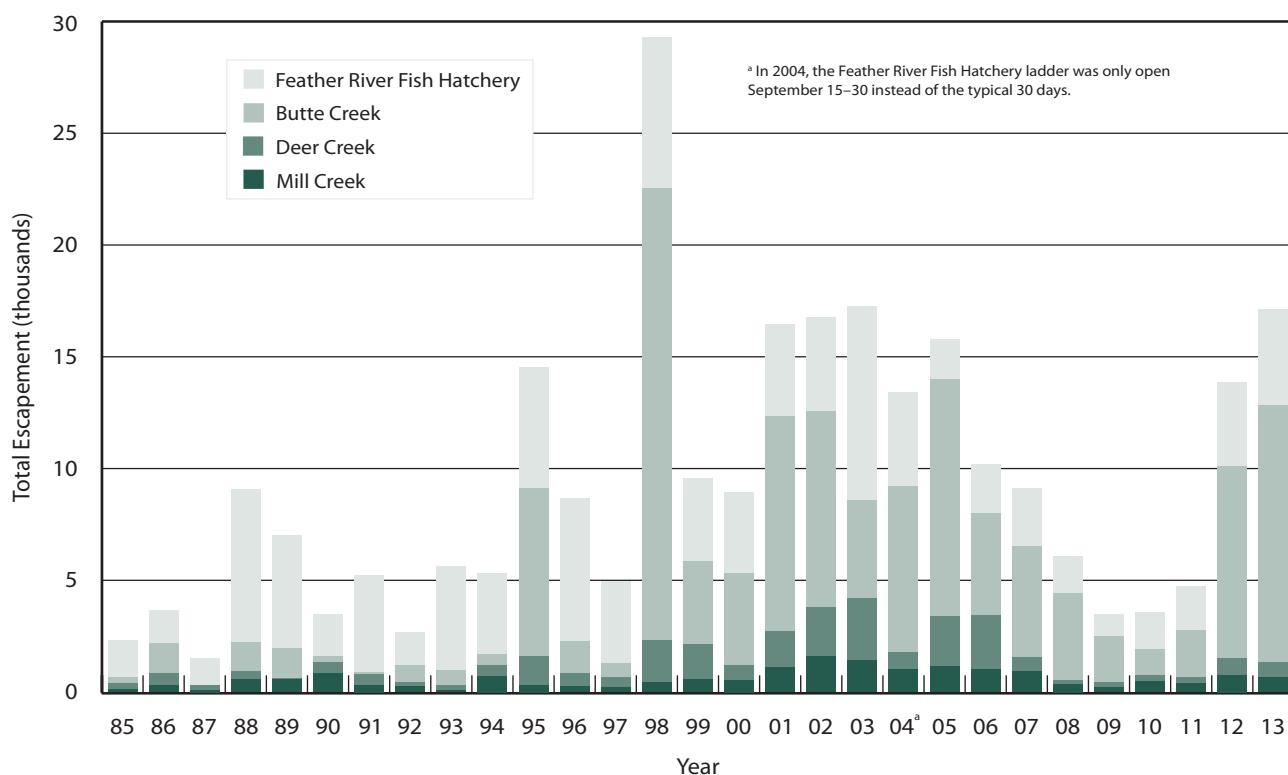
Figure 3-4 shows estimates of returning adult spring-run Chinook Salmon from 1985 through 2013. Individual estimates are shown for FRFH and the principal spring-run spawning streams: Mill Creek, Deer Creek, and Butte Creek. The escapement estimates are shown separately for each stream, because the Feather River estimate is based on returns to the FRFH, where the genetic integrity of spring-run Chinook Salmon is uncertain. The estimated escapement for 2013 was 4,294 for FRFH and 12,822 for the other streams combined. The 2013

escapement estimate was 2.5 times higher than the 2010 parent stock estimate for the FRFH, and seven times higher than the 2010 parent stock estimate for naturally spawned fish in Mill, Deer, and Butte creeks.

Due to the lack of comprehensive monitoring programs, there are no reliable escapement estimates for wild Central Valley steelhead.

## Pelagic Organism Decline in the Upper San Francisco Estuary

By the early 2000s, long-term monitoring by the Interagency Ecological Program (IEP) revealed marked declines in numerous pelagic (open water) fish species in the upper San Francisco Estuary (the Delta and Suisun Bay). This decline has collectively become known as pelagic organism decline.



**Figure 3-4 Estimated Total Adult Spring-run Chinook Salmon Escapement, 1985–2013**

Pelagic fish species in decline include Delta Smelt, Longfin Smelt, Striped Bass (*Morone saxatilis*), and Threadfin Shad (*Dorosoma petenense*). These declines resulted in significant management consequences, including limits on SWP and CVP pumping operations for the protection of Delta Smelt (listed as threatened under ESA and endangered under CESA) and Longfin Smelt (listed as threatened under CESA).

Since 2005, IEP scientists have been coordinating studies investigating potential causes of pelagic organism decline. In 2010, an “ecosystem regime shift” conceptual model was put forward, hypothesizing that pelagic organism decline was caused by changes to multiple and interacting environmental variables, such as outflow, turbidity, and salinity, which led to fundamental changes to the Delta ecosystem (see the *IEP Pelagic Organism Decline Work Plan and Synthesis of Results*, available on DWR’s website). This conceptual model has served as a working hypothesis for continuing pelagic organism decline investigations since 2011. In early 2012, the IEP formed the Management, Analysis, and Synthesis Team to synthesize scientific datasets with the goal of addressing pressing management information needs.

During 2013, the team continued to evaluate possible drivers for the Delta Smelt population increase in 2011, and evaluate how the Delta Smelt population responds to varying environmental conditions. In addition, the Management, Analysis, and Synthesis Team and the IEP identified priority information gaps to guide future research projects, which included studies that elucidate fish population dynamics, fish distribution and health, and population effects of the food webs and water diversions.

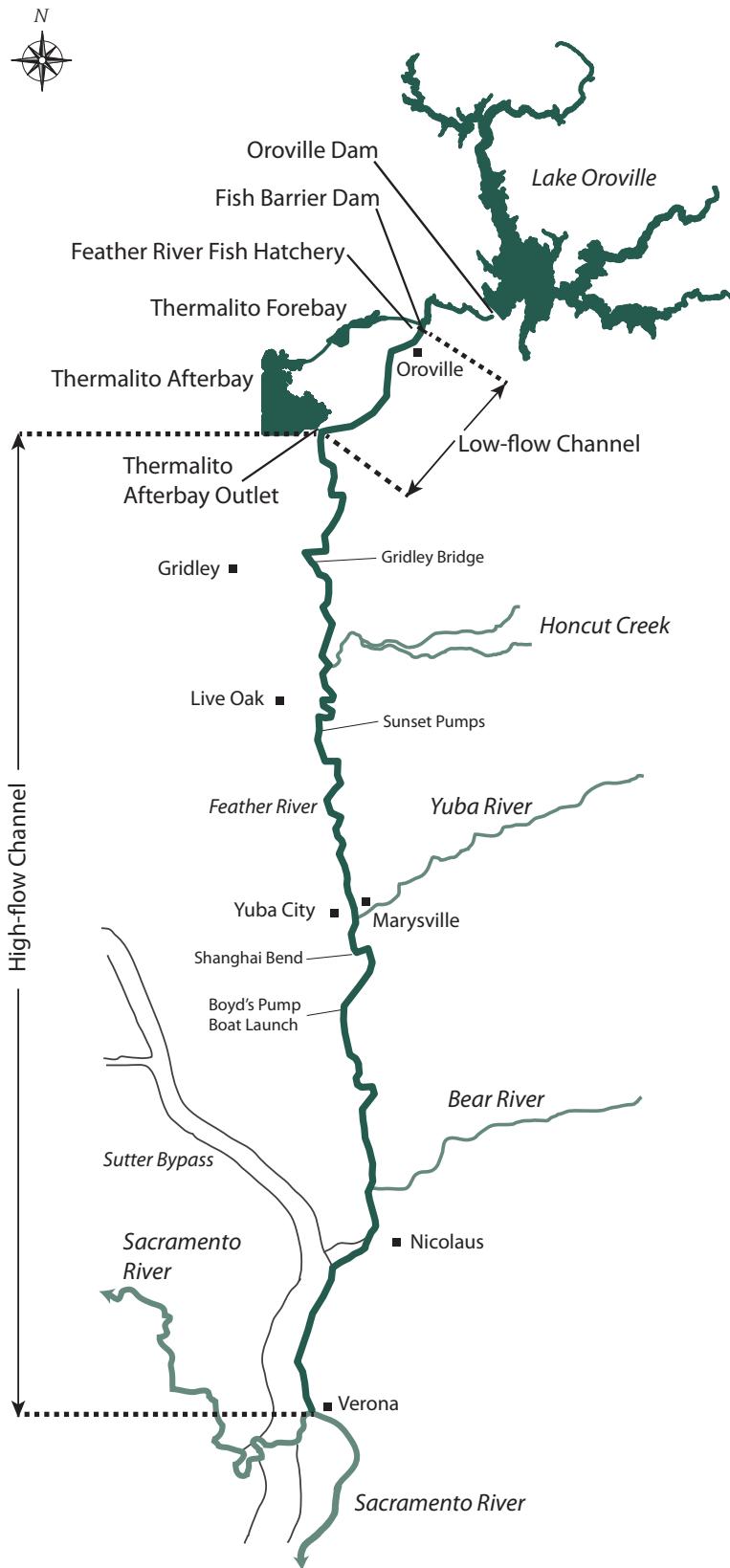
## Feather River Fish Studies

In the early 1990s, the Feather River fish studies were initiated to document and monitor fish populations in the lower Feather River. Early efforts focused on studies to identify flow requirements for Chinook Salmon and steelhead. The program, initiated in the mid-1990s in preparation for the Federal Energy Regulatory Commission relicensing of the Oroville Facilities, has progressively expanded to also satisfy requirements in the NOAA Fisheries BiOp for long-term operations of the CVP and SWP. Field program elements, including operation of rotary screw traps (RSTs), salmon and steelhead spawning surveys, salmon escapement surveys, and snorkel surveys, have expanded to include acoustic and radio telemetry, otolith thermal marking studies, spring-run Chinook Salmon tagging for hatchery broodstock collection, and Green Sturgeon studies.

The study area is generally divided into the low-flow channel, from the Fish Barrier Dam downstream to the Thermalito Afterbay Outlet, and the high-flow channel, from the Thermalito Afterbay Outlet downstream to the confluence with the Sacramento River at Verona (see Figure 3-5).

### Rotary Screw Traps

RSTs capture juvenile salmon and steelhead as they emigrate from the Feather River. Over the last several years, DWR has used RSTs as the primary method to assess the general abundance and timing of emigrating juvenile salmon and steelhead in the lower Feather River. In addition, large numbers of naturally produced (wild) salmon have been coded wire tagged in an effort to examine their return success. This long-term monitoring yields valuable baseline information about juvenile salmonid production in the lower Feather River and the effects of project operations on abundance and migration timing.



**Figure 3-5 The Lower Feather River**

Emigration timing and speed measurements confirm that most wild juvenile Chinook Salmon move rapidly through the upper reaches of the lower Feather River.

Consistent with select years of trapping data, turbidity may influence the emigration timing of wild juvenile salmon. However, other studies demonstrate that the timing of adult spawning probably plays a large role in determining juvenile salmon emigration patterns as well.

In 2013, the RSTs fished throughout the emigration period (December through May). Two RST locations were used to assess the timing and general abundance of juvenile Chinook Salmon, steelhead, and other fishes emigrating in the lower Feather River. Within the low-flow channel, one RST (Gateway Riffle) was stationed at River Mile (RM) 59.5, approximately 0.5 miles above Thermalito Afterbay Outlet. The Gateway Riffle RST was operated from December 20, 2012, to May 31, 2013. Within the high-flow channel, two RSTs were fished in tandem at Herring Riffle at RM 46 from December 3, 2012, through May 31, 2013. The preliminary estimate of passage at Gateway Riffle was 26,106,299 juveniles, and the Herring Riffle location estimate was 13,880,121 juveniles.

Although Chinook Salmon and steelhead were the primary targets of trapping efforts, records were kept on all fish species caught. Twenty-four species were caught during the 2013 season. Chinook Salmon was the dominant species, comprising 99 percent of the catch. A total of 931,728 Chinook Salmon were caught in the RSTs with 357,303 (38 percent) of those captured in the low-flow channel and 574,425 (62 percent) caught in the high-flow channel.

A total of 12,821 Chinook Salmon at Herring Riffle and 5,829 at Gateway Riffle were measured for fork length in 2013. Salmon emigration was observed from December through May, with

peak emigration occurring in January and February.

## Acoustic and Radio Telemetry

Acoustic and radio telemetry gathers baseline information on the migration and holding patterns of adult Chinook Salmon in the lower Feather River. In 2013, the telemetry study was conducted to collect additional data to evaluate the relationship between flows and passage barriers and migration patterns of prespawning adult Chinook Salmon.

Chinook Salmon with a spring-run life history enter freshwater in early summer and hold in the river up to several months before spawning. In order to collect additional data on migration patterns of prespawning adult Chinook Salmon, adults are captured and tagged with acoustic tags. Tracking their movements over barriers and through the high-flow and low-flow channels provides information on what variables may be affecting their behavior and ultimately the success of their migration.

Between May 15 and June 26, 2013, 18 adult Chinook Salmon designated as having spring-run life history traits were captured using hook-and-line sampling (angling) and tagged with acoustic tags at Sunset Pumps and the Shanghai Bend area. An additional 20 fish were captured at the FRFH and tagged with acoustic tags. These fish were monitored along the 67-mile stretch of river from the Fish Barrier Dam near the FRFH to the confluence with the Sacramento River at Verona. Twenty-seven submersible hydrophone receivers positioned at various locations along this stretch picked up the signals from the acoustic tags as the fish passed the receivers. Fixed station receivers were checked at least once per month during the survey season. Thirty-seven (97 percent) of the tagged fish were subsequently detected.

A total of 18 (90 percent) of the fish tagged at the hatchery stayed in the low-flow channel after being tagged, while 2 (10 percent) moved downstream and were last detected in the high-flow channel. All fish tagged in the river initially showed upstream movement. The receivers and mobile tracking surveys revealed that 16 (89 percent) of the fish tagged in-river swam to the fish barrier dam and then continued to stay in the low-flow channel during the entire survey period (May 15 through October 15). Two fish (11 percent) did not make it to the Fish Barrier Dam and were last detected in the high-flow channel. All fish tagged downstream of the Yuba River moved up the Feather River and did not enter the Yuba River, at least for any length of time. No obvious passage issues were observed at Sunset Pumps in 2013.

These results are similar to those in previous years indicating that spring-run Chinook Salmon in the Feather River tend to move to the upper reaches of the river, and hold in cold, deep pools until they are ready to spawn in September and early October.

## Spawning Surveys

To better understand Feather River salmon and steelhead spawning characteristics, redd surveys (a redd is a shallow depression in a streambed, excavated by a salmonid and containing deposited fish eggs) are performed to identify the location, timing, magnitude, and physical characteristics of natural spawning sites in the lower Feather River. The surveys are generally performed weekly, and most of the available spawning area between the Fish Barrier Dam and Gridley Bridge is searched.

### Salmon

Ground surveys for the 2013 Chinook Salmon redd survey began on September 10 and continued until October 25. The redd survey consisted of a total of 14 days over eight survey weeks. In the low-flow channel,

ground surveys were concentrated in lower, middle, and upper Auditorium Riffle as well as the section between Cottonwood Riffle and upper Moe's Side Channel. Hatchery Riffle was also sampled. The high-flow channel was surveyed during the last two survey weeks in October to identify any potential for redd dewatering.

The Chinook Salmon redd survey protocol for 2013 was created to provide comparable physical data (depth, velocity, and substrate characteristics) for redds in the upper sections of the low-flow channel where gravel augmentation work was scheduled in 2014. The 2013 redd survey data will be compared to redd data collected in 2014 to evaluate how salmon respond to the new gravel.

During the eight weekly surveys, 864 redds were found within the spawning area between Hatchery Riffle (RM 66.6) and lower Auditorium Riffle (RM 66.4). Another 267 redds were discovered in the high-flow channel from the Thermalito Afterbay Outlet to the Gridley Bridge.

The week 4 survey (October 1 to October 4) covering the area between Hatchery Riffle and lower Auditorium Riffle revealed the highest number of redds with 391. The second highest total was 382 redds for the survey conducted October 16 and 18 covering the high-flow channel (RM 59–50.8), Hatchery Riffle and the top of Auditorium Riffle. The locations with the largest number of redds were the lower Auditorium Riffle area with 492 (44 percent) and Hatchery Riffle with 195 (17 percent). The average depth for all salmon redds was 0.50 meters (m) (1.64 feet [ft]) with an average water velocity of 0.52 m (1.71 ft) per second. The average redd length and width was 1.9 m (6.23 ft) by 1.2 m (3.94 ft).

### Steelhead

In 2013, a total of 21 steelhead redds were identified during 9 weekly surveys. Steelhead

redds were first observed on January 10, with newly constructed redds continuously observed through March 5.

Increased turbidity and depth throughout the low-flow channel during the survey season created river conditions that precluded surveyors from effectively identifying redds. The resulting survey year was therefore truncated in scope and effort and confined to Hatchery Side Channel and Moe's Side Channel where all 21 steelhead redds were identified.

The average depth for all recorded redds was 0.28 m (0.92 ft) with an average water velocity of 0.45 m (1.48 ft) per second. The average redd length and width was 1.07 m (3.51 ft) by 0.70 m (2.30 ft). Small gravel was the dominant substrate type used by steelhead for redd construction, and overhead cover was present at 90.5 percent (19 of 21) of observed redds. Instream cover was present at 76.2 percent (16 of 21) of observed steelhead redds with small woody debris being the most common type occurring 66.7 percent (14 of 21) of the time.

## Salmon Escapement Survey

The purpose of the salmon escapement survey is to evaluate the abundance, distribution, and timing of Chinook Salmon adults spawning in the river.

The survey provides information crucial to monitoring, managing, and conserving the Feather River's salmon populations. Estimating the number of salmon returning to spawn is the basic goal of the escapement survey. However, the data are used to identify trends in population and age structure, track patterns in spawning distribution, determine proportions of hatchery versus wild fish, and explore environmental effects on pre-spawn survival rates.

The estimate is based on a weekly mark and recapture experiment in which salmon carcasses are tagged, chopped, and placed back into the river. The rate at which tagged carcasses are recovered (the recovery rate) relative to the number of carcasses checked for tags (chopped) provides the basis for an estimate of the total spawning population.

The Chinook Salmon spawning escapement survey began September 3 and continued through December 18, 2013. The survey was conducted in the low-flow channel and the high-flow channel from the Table Mountain Bridge downstream to the Gridley Bridge. Due to the low numbers of returning fish in the high-flow channel, the data were pooled with the low-flow channel data to generate one estimate for the lower Feather River.

The carcass mark and recapture study resulted in a spawning population estimate of 151,209 Chinook Salmon for the lower Feather River. There were an estimated 5,559 grilse (typically 2-year-old fish less than 65 centimeters fork length). These estimates include both fall-run and spring-run Chinook Salmon since their spawning is currently not segregated on the Feather River.

Approximately 91.0 percent of the spawning population utilized the low-flow channel. Since 2000, the long-term average for the low-flow channel's spawning population is 81.1 percent. In the low-flow channel, survey section 10 (RM 65.5) had the highest carcass concentration followed by section 8 (RM 66.5). The highest concentrations of carcasses in the high-flow channel were found in sections 24 (RM 58) and 33 (RM 53).

## Spring-run Chinook Salmon Tagging

To better understand spring-run Chinook Salmon life history in the lower Feather River and to mark fish for broodstock collection, a program was developed to mark spring-

run Chinook Salmon entering FRFH in the spring to segregate spring- and fall-run Chinook Salmon spawning in the hatchery in the fall. The program also investigates potential differences in spawning distribution and timing of the early arriving spring-run salmon in the river.

Early arriving spring-run salmon entering the hatchery were marked with individually numbered Hallprint dart tags for identification. Once marked, the fish were released into the river. During the hatchery spawning season, the tags enabled hatchery staff to distinguish the early arriving spring-run fish from the fall-run fish, so that spring-run fish could be spawned separately from the fall-run. The tags also enabled the escapement survey crew to differentiate spring- and fall-run salmon, so that any potential differences or trends in the in-river spawning behavior of the two runs could be analyzed.

In 2013, 20,057 Central Valley spring-run Chinook Salmon were tagged at FRFH, an all-time record since tagging began in 2004. Salmon were tagged from May 2 to July 1, and when spawning commenced in the fall, a total of 8,936 tagged fish were recaptured: 4,247 at the FRFH, and 4,689 in the river escapement survey.

## Otolith Thermal Marking Studies

The Chinook Salmon run in the Feather River consists of both Central Valley spring-run and fall-run fish, both of which are heavily supplemented by the FRFH. To effectively determine the composition of the run (spring-run versus fall-run) and the origin of the fish (hatchery versus wild), DWR developed an otolith thermal marking program for the FRFH. Thermal marking is an efficient method to mark 100 percent of the fish produced at the hatchery.

In 2005, 100 percent marking of spring- and fall-run Chinook Salmon began. In 2013, otolith processing was completed. Results

indicate that the proportion of wild spring-run salmon spawning in the river and FRFH are very low, probably between 1 and 10 percent.

## Snorkel Surveys

From 1999 to 2001, DWR conducted a snorkel survey focused on juvenile steelhead, but included other species and life stages. In 2010, DWR reinstated the lower Feather River snorkeling surveys with the following objectives:

- (1) determine the relative abundance and distribution of juvenile Chinook Salmon and steelhead prior to habitat improvements;
- (2) identify habitat conditions (depth, substrate, velocity, and cover) where juvenile Chinook Salmon and steelhead occur;
- (3) identify potential sites for gravel supplementation, channel improvement, and structural habitat restoration; and
- (4) identify habitat deficiencies for juvenile Chinook Salmon and steelhead in the lower Feather River prior to habitat improvements.

In 2013, the Feather River Program continued to collect data for these efforts but in a more limited way than in previous years. Data are still used to determine the relative abundance and distributions of age-0 (fish in the first year of their life) steelhead prior to habitat improvements. Characteristics of habitat where juvenile steelhead and salmon occur are quantified and other high-use areas of the low-flow channel that may benefit from habitat improvements are identified.

In future years, habitat availability will be studied to investigate habitat preferences by species and size classes. As habitat restoration projects begin, survey data may contribute to guiding and improving future habitat projects.

## Green Sturgeon Studies

The primary objectives of sturgeon studies are to:

- determine if adult migration barriers exist;
- evaluate migration patterns including residence times and factors affecting them;
- identify distribution and habitat preferences of adults and juveniles;
- evaluate the effect of Oroville Facilities operations on passage success and distribution;
- estimate the annual abundance of adult Green Sturgeon;
- determine potential spawning grounds that can be target areas for egg and larval surveys; and
- provide DWR, the Federal Energy Regulatory Commission, NOAA Fisheries, and DFW with data to make management decisions concerning future monitoring programs, operational changes of the facilities, and/or habitat enhancement within the lower Feather River.

### Sturgeon Sonar Survey

In 2013, 88 sonar surveys were completed from February 19 to December 30. Fourteen different sites were inspected on the lower Feather River although most of the surveys were conducted at three primary locations: Shanghai Bend (RM 24.7), Sunset Pumps (RM 38.5), and the Thermalito Afterbay Outlet (RM 59). These primary sites made up approximately 82 percent of all surveys. Shanghai Bend and Sunset Pumps were both surveyed 24 times and the Thermalito Afterbay Outlet was surveyed 23 times.

A total of 17 sturgeon were detected during the survey season (14 at Shanghai Bend, 2 at Sunset Dam, and 1 at Beer Can Beach [RM 7]). At Shanghai Bend, the sturgeon were detected at depths ranging from 1.0 m (3.3 ft) to 7.1 m (23.3 ft) with a mean depth

of 3.4 m (11.2 ft). Sturgeon detected at Sunset Pumps ranged in depth from 5.4 m (17.7 ft) to 5.6 m (18.4 ft) with a mean of 5.6 m (18.4 ft). At Beer Can Beach, depths for observed sturgeon ranged from 1.3 m (4.3 ft) to 7.5 m (24.6 ft) with a mean depth of 2.8 m (9.2 ft). At Shanghai Bend, observed sturgeon had a mean length of 1.68 m (5.5 ft) (+/-0.26 m [0.85 ft]); sturgeon at Beer Can Beach had a mean length of 2.07 m (6.79 ft) (+/-0.31 m [1.02 ft]); and sturgeon observed at Sunset Pumps had a mean length of 1.49 m (4.89 ft) (+/-0.13 m [0.43 ft]).

### Sturgeon Angling/Telemetry Studies

A total of four Green Sturgeon were caught and tagged using traditional angling gear (rod and reel with baited hook) from April 18 through December 2, 2013. Sturgeon caught before July 1 are designated as pre-spawn and are therefore tagged with external acoustic tags whereas those fish caught after July 1 are post-spawn and may be tagged with internal acoustic tags. Once tagged, a sturgeon's location can be identified as it passes through the array of acoustic receivers placed in the Feather River from Verona (RM 0) to the Fish Barrier Dam (RM 67) near the FRFH. The first adult Green Sturgeon was captured and externally tagged on June 3 just downstream of Shanghai Bend where it remained until July 5. This fish migrated down to Boyd's Pump Boat Launch (RM 22) and was last detected on July 6 near the mouth of the Bear River (RM 12.4). The fate of this sturgeon is uncertain; it is possible that the sturgeon shed the external tag or was taken by an angler.

The second adult Green Sturgeon was captured and externally tagged on June 12 just downstream of Shanghai Bend where it remained until June 19 when it began moving downstream. It left the lower Feather River on June 20 and entered the main stem of the Sacramento River at Verona.

The third sturgeon was captured and tagged on June 12 at Shanghai Bend. This sturgeon

moved between Sunset Pumps (RM 38.5) and Beer Can Beach multiple times and passed through Shanghai Bend on six different occasions in flows ranging from 5,368 to 6,816 cfs. It also migrated up to Sunset Pumps on two different occasions in flows ranging from 5,438 to 5,686 cfs, but never passed Sunset Pumps. This sturgeon provided critical passage information for future management decisions as it clearly showed that Shanghai Bend in its current configuration is probably not a major passage barrier to adult sturgeon when flows are above approximately 5,368 cfs. This information also suggests that Sunset Pumps may be impassable to sturgeon when flows range from around 5,438 to 5,686 cfs. This fish was recaptured on November 12 and internally tagged. It was recaptured again on November 25 at which time its external tag was permanently removed.

The fourth Green Sturgeon was caught on November 13 and was internally tagged.

### ***Sturgeon Egg and Larval Studies***

Ten egg mats were deposited on the river bottom just downstream of Shanghai Bend from June 10 through July 15 for a total of 338.8 wetted mat days. (One mat placed on the river bottom for 24 hours equals one wetted mat day). The mats were hauled to the surface and checked for eggs every 3 to 4 days. Sampling locations were determined based on the presence of multiple sturgeon detected with sonar, observation of angler-caught Green Sturgeon, or field observations of breaching sturgeon. In 2013, egg mats were set in waters that ranged from 1.6 m (5.2 ft) to 5.5 m (18.0 ft) deep. Flows ranged from 96–192 cubic meters per second (3,390–6,780 cfs). Other water parameters measured during the sampling period included water temperatures of 18.75–21.61 °C (65.75–70.90 °F), specific conductance of 88.6–91.3 microsiemens per centimeter, and dissolved oxygen levels of 9.21–10.20 milligrams per liter. No sturgeon

eggs or larvae were sampled with egg mats during the 2013 sampling season.

D-nets (mesh net on a D-shaped frame) were deployed for the first time in the lower Feather River in 2013. Five separate locations just downstream of Shanghai Bend were sampled. D-nets were deployed once a week from sunset to sunrise and checked every 30–60 minutes. A total of 56,840,758 cubic meters of water was sampled during the five surveys from June 19 to July 17. D-nets were set in waters that ranged from 1.2 m (3.9 ft) to 2.7 m (8.9 ft) deep. Flows ranged from 120–193 cubic meters per second (4,238–6,816 cfs). Other water parameters measured during the sampling period included water temperatures of 19.35–21.48 °C (66.83–70.66°F), specific conductance of 71.1–80.8 microsiemens per centimeter, and dissolved oxygen levels of 10.14–10.61 milligrams per liter. No sturgeon eggs or larvae were sampled with D-nets during the 2013 sampling season.

Other species sampled included Sacramento Sucker (*Catostomus occidentalis*), American Shad (*Alosa sapidissima*), unidentified lamprey species, Wakasagi (*Hypomesus nipponensis*), American Shad eggs, and unidentified catfish and sculpin species.

### ***Steelhead Acoustic Tagging***

A broad range of restoration and recovery efforts has been identified in the lower Feather River to assist in the recovery of steelhead; however, the ability to measure their success or improve the status of Central Valley steelhead has been hampered by a lack of information regarding steelhead life history and population dynamics. To address this lack of information, DWR began a tagging program aimed at identifying behavior and survival of steelhead released as smolts from the FRFH.

In 2013, the Feather River Program continued the steelhead acoustic tagging program that

was developed in 2012 to determine the downstream migration success rate for FRFH steelhead released into the Feather River at the Boyd's Pump Boat Launch release site. Using fixed station and mobile acoustic telemetry, DWR tracked the migration of acoustically tagged steelhead as they left the system.

For this study, 200 hatchery-reared steelhead were implanted with acoustic tags and divided into 8 separate release groups, released over the course of 4 days. Each release group was placed into a much larger group of untagged fish and then transferred by truck to the release site. All of the releases took place at Boyd's Pump Boat Launch in Yuba City. Fish in the direct release group went directly into the river, while fish in the net pen group were put into a large net pen for an acclimation period prior to release. All fish were released in early February between 9 a.m. and noon.

An array of fixed acoustic receivers placed at 10 to 15 kilometer intervals downstream of the launch site detected 179 tagged steelhead. These receivers were downloaded monthly during mobile roving surveys conducted to locate fish in the reaches between receivers. Movement histories created for each detected fish provided an estimated outmigration success rate of 40 percent for fish leaving the lower Feather River. It is unknown at this time whether this success rate is typical of other Central Valley rivers, or if Feather River steelhead fare better or worse. When the Feather River steelhead hatchery genetic management plan is completed and implemented, additional studies targeting steelhead survival in the lower river will be initiated. Efforts will focus on release strategies that improve both survival and homing back to the Feather River and the FRFH.

## Fish-related Mitigation Projects

In 1986, DWR and DFW signed the Delta Pumping Plant Fish Protection Agreement (Delta Fish Agreement) to annually provide funds to offset direct losses of Chinook Salmon, steelhead, and Striped Bass at Banks Pumping Plant. The Delta Fish Agreement is commonly referred to as the Four Pumps Agreement because it was adopted as part of the mitigation for four additional pumps at Banks Pumping Plant. Direct losses are defined as losses of fish that occur from the time fish are drawn into Clifton Court Forebay until the surviving fish are returned to the Delta. In principle, DFW and DWR intended this agreement to offset direct losses of all fish caused by the diversion of water by the pumping plant starting in 1986. However, at that time, information on impacts and measures to offset those impacts was sufficient only to deal with Chinook Salmon, steelhead, and Striped Bass. The agreement allowed for addressing impacts on other fish species once impacts could be identified and measures could be developed that would offset such impacts.

The agreement formalized the Delta Pumping Plant Fish Advisory Committee consisting of representatives from interest groups concerned with fish resources affected by the SWP, including, but not limited to, representatives of the SWP water contractors, sport and commercial fishing groups, and environmental groups. DWR and DFW work with the Delta Pumping Plant Fish Advisory Committee to review the success of the agreement in offsetting the direct effects of diversions by Banks Pumping Plant.

To mitigate fish loss, mitigation projects are selected and funded by the Delta Fish Agreement. The agreement outlines how project proposals are reviewed and selected for funding and gives priority to mitigation measures for habitat restoration

and other nonhatchery measures. Under the agreement, DWR calculates fish loss as prescribed in the agreement, and approved mitigation projects earn fish mitigation credits to satisfy the fish loss mitigation provisions in the agreement. Mitigation is on a fish-for-fish basis.

The agreement provides for two funding components. One component is the Annual Mitigation Account for compensating the annual fish loss. It has no expiration date. The second is a \$15 million Lump Sum Account provided by DWR for additional projects to compensate for post-1986 fish loss. The agreement specifies that the \$15 million must be expended by December 29, 1996.

The Delta Fish Agreement has been amended four times:

- Amendment 1 (1996)—extended the period to expend the remaining \$9 million of the \$15 million to December 29, 2001.
- Amendment 2 (2001)—extended the period to expend the remaining \$5 million of the \$15 million to December 31, 2004.
- Amendment 3 (2004)—extended the period to expend the remaining \$3.6 million of the \$15 million to December 31, 2007.
- Amendment 4 (2011)—extended the period to expend the remaining \$1.6 million of the \$15 million to December 31, 2015.

Since 1986, DWR has spent \$61.9 million on mitigation projects developed under the Delta Fish Agreement. Mitigation fund expenditures through December 31, 2013, were \$48.3 million for the Annual Mitigation Account and \$13.6 million for the \$15 million Lump Sum Account. Funds approved but unexpended from each account were \$9.5 million and \$1.4 million, respectively.

For more information, see DWR's website.

## Climate Change

Climate change involves complex interactions and will have diverse impacts on California's natural resources. The SWP was designed based on historical hydrology and is therefore vulnerable to changes in climate that may shift the hydrology in challenging ways. Climate warming is expected to continue shifting rainfall and runoff patterns and diminishing the Sierra Nevada snowpack affecting DWR's ability to efficiently operate the SWP. In the future, sea-level rise, increased occurrence of extreme precipitation events, and prolonged droughts may also threaten operation of the SWP. Increased saline water flows and reduced surface flows due to droughts may require increased fresh water storage releases to maintain water quality requirements. Climate change is likely to exacerbate existing ecological issues in Central Valley rivers and the Delta by raising water temperatures, increasing sediment loading (as a result of increased wildfires and more extreme precipitation events), and increasing water demands.

DWR is committed to contributing to statewide, national, and international efforts to mitigate the future impacts of climate change by reducing greenhouse gas (GHG) emissions from its activities and adapting to unavoidable climate change impacts. DWR's efforts throughout 2013 represent the continuation of its multipronged approach to addressing these issues by:

- conducting research to better understand potential future impacts;
- monitoring and reporting GHG emissions;
- developing plans, strategies, and actions to improve the resiliency of DWR/SWP facilities and operations;
- reviewing/consulting with outside experts; and
- developing and managing data.

## Completed in 2013

### Reporting

#### 2012 Emissions Reports to The Climate Registry

**Registry.** DWR's emissions are primarily the result of electricity generation at DWR-owned power plants and power purchase transactions to provide power for operation of the SWP. Between 2007 and 2009, DWR reported its estimated total direct and indirect GHG emissions to the California Climate Action Registry and earned Climate Action Leader Status each year. In 2010, emissions reporting transitioned to The Climate Registry, which is a North America-wide registry.

In 2012, DWR became aware of a systematic problem with the methodology used in accounting for and reporting its emissions to The Climate Registry. The methodology had inaccurately accounted for emissions, resulting in an overstatement of DWR's GHG emissions of approximately 1 million tons per year. During 2013, DWR worked with its private verifier and The Climate Registry staff to revise the methodology and gain approval for an alternative methodology that more accurately reflects DWR's actual emissions and is consistent with GHG accounting done for the DWR *Greenhouse Gas Emissions Reduction Plan*. DWR will be working to resubmit emissions reports in 2014 for years 2010, 2011, and 2012 using the revised methodology.

In May 2013, DWR reported its GHG emissions for the emission year 2012 to the California Air Resources Board under its obligation pursuant to California mandatory GHG emissions reporting regulations (Title 17, California Code of Regulations, Sections 95100–95158). The report included energy generated and consumed by the SWP, GHG emissions due to energy imported from Reid Gardner Unit 4, and sulfur hexafluoride emissions associated with the SWP's switchyard circuit breakers. In addition, to meet its compliance obligation for the Cap

and Trade Program, DWR participated in GHG allowance auctions conducted by the California Air Resources Board.

## Ongoing during 2013

### Research

#### Evaluation of Benefits of Meadow Restoration on Sierra Nevada Water Supply.

DWR has provided funding to the U.S. Forest Service for a 3-year investigation (partly extended to 5 years due to operational and management difficulties) of the hydrologic effects of meadow restoration and how restored meadows can contribute to improved system operation and ecosystem functioning. The goals include:

- delineating potential meadows using available geographic information system datasets;
- delineating meadows in the field and comparing the field delineations to those derived from geographic information system analysis;
- assessing meadow condition in a random sample to extrapolate to the condition of all Sierra meadows; and
- installing instrumentation to assess hydrology of undisturbed and restored meadows.

Project accomplishments in 2013 included:

- further update of an annotated bibliography of scientific literature pertaining to meadow restoration and hydrology;
- further development of an inventory of meadow communities on public lands in the Sierra Nevada;
- field assessment of meadow delineations and quantification of extent and degree of meadow erosion;
- water budget studies for representative meadows (partially completed and continuing); and

- completion and publication of a model of groundwater dynamics in incised meadows, indicating that meadow erosion decreases long-term groundwater storage.

The results of the field assessment and quantification of meadows indicate that the majority (approximately 70 percent) of Sierra Nevada meadows are sufficiently eroded/incised to eliminate beneficial hydrologic functions. Potential improvements in groundwater storage capacity in the Sierra Nevada using this total meadow acreage are estimated at approximately 53,000 acre-feet per year.

Long-term hydrologic effects of meadow erosion are still uncertain, but likely include diminished streamflow, lower regional water tables, reduced mountain block recharge, and reduced groundwater storage in headwater areas.

**Tree-ring Reconstruction of Paleostreamflows in the Sacramento, San Joaquin, and Klamath River Basins.** DWR executed a contract with the University of Arizona for development of tree-ring reconstructions of paleostreamflows in the Sacramento, San Joaquin, and Klamath river basins. Extending streamflow records beyond the relatively short period of the historical record provides an improved picture of climate variability and yields data for use in operations model sensitivity analyses and for vulnerability analyses. The contract began in fall 2010, and the final report will be completed in 2014. Additionally, with funds provided by Reclamation, the University of Arizona is developing a database of climate analog years for DWR, including the paleodata. Most of the field work involving coring living trees was completed in 2013, but collection of dead wood using a chainsaw could not be performed due to dry conditions and U.S. Forest Service prohibitions on chainsaw use. Chronologies

have been prepared for the samples collected, and preliminary reconstructions have been developed with presently available samples.

**Sensitivity Analysis of Sierra Nevada and Coastal Range Upper Watersheds to Temperature Changes Using the Soil and Water Assessment Tool.** Physically based, distributed hydrologic models are essential tools for evaluating long-term hydrologic changes in California. The SWAT (Soil Water Assessment Tool) is being used to develop individual models of 18 watersheds in the Sierra Nevada and Coastal Range mountains for areas tributary to the Sacramento-San Joaquin Delta. A common and consistent database of digital elevation, land use, soil, and climate data is used with a geographic information system to develop the SWAT models. Model calibration and validation are based on observed or reconstructed monthly unimpaired streamflows at the watershed outlets. The calibrated models will be used to study the effect of imposed warming of 1–4 °C (34–39 °F) on the hydrology of these source watersheds and the impact on water supply in the Central Valley.

**Reoperation of Water Supply and Flood Protection Systems.** DWR is conducting a system reoperation study in cooperation with other State and federal agencies, local water districts, groundwater managers, and other stakeholders, to identify potential strategies for reoperation of the statewide flood protection and water supply systems. The opportunity to reoperate portions of California's statewide water system to yield increased water resource-related benefits was recognized by the State Legislature in Senate Bill X2 1 (Perata; Chapter 1, Statutes of 2008; Water Code Section 83000).

In support of the legislative objectives, DWR developed the system reoperation study to identify viable reoperation

strategies and understand how integrated management can:

- improve the reliability of municipal and irrigation water supply;
- reduce flood hazards;
- restore and protect ecosystem function and habitat conditions;
- buffer the hydrologic variations expected from climate change; and
- improve water quality.

Development of the system reoperation study is a multiphased effort that includes:

- Phase 1, Plan of Study (completed in 2011);
- Phase 2, Strategy Formulation and Refinement (completed in 2013);
- Phase 3, Preliminary Assessments of Strategies (planned to be completed in 2015); and
- Phase 4, Reconnaissance Level Assessments of Strategies (planned to be completed in 2017).

The system reoperation strategies will be analyzed with appropriate climate change scenarios and evaluated for their ability to reduce or minimize climate change impacts to water supply, flood management, and the ecosystem.

Project accomplishments in 2013 included completing the draft Phase 2 report that includes the Tradeoff Analysis and Forecast-based Operations Analysis technical reports.

### **Review and Consultation**

#### **DWR Climate Change Technical Advisory Group.**

The Climate Change Technical Advisory Group (CCTAG) advises DWR on the scientific aspects of climate change, its impacts on water resources, the use and creation of planning approaches and analytical tools, and the development of adaptation responses. As a standing technical advisory group serving all DWR

programs, it provides external guidance and support for a variety of climate-related issues, including scientific review of climate change models and scenarios, interpretation of scientific information produced by the National Climate Assessment and the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. It also informs DWR's climate change adaptation policies, providing consistency in the scientific advice DWR receives on climate change. DWR's Climate Change Program oversees and coordinates the CCTAG.

The CCTAG met several times in 2013 and established a road map for global climate model selection for California water resources and initial planning for a list of recommendations to DWR on handling climate change. These efforts are expected to be completed by March 2015. All the CCTAG meeting materials are posted on DWR's climate change website.

### **Planning**

#### **Data Collection and Climate Services.**

Since 2011, DWR has been developing the Flood Emergency Response Information Exchange. Efforts are underway to link information presented in the exchange to the climate data in the California Climate Data Archive. The exchange will also house a new map-based server for precipitation depth-duration-frequency curves and annual extremes data sets that make up Bulletin 195 (*Rainfall Analysis for Drainage Design*).

For observing data systems, DWR is continuing its partnership with the Earth Systems Research Lab of the National Oceanic and Atmospheric Administration and Scripps Institution of Oceanography to deploy new monitoring equipment for extreme precipitation events. For this network, water vapor measurements, wind profilers, soil moisture sensors, and freezing-level radar are being deployed across the State. The data from this network is currently served through the National

Oceanic and Atmospheric Administration's Hydrometeorology Testbed website, but efforts continue to get the data into the California Data Exchange Center. A new remote sensing monitoring effort using airborne LIDAR (light detection and ranging) measurements of the snowpack is being developed under a joint project between DWR and the National Aeronautics and Space Administration's Jet Propulsion Laboratory.

### ***Data Development and Curation***

#### **DWR Climate Change Basic Data Group.**

DWR's Climate Change Basic Data group is composed of representatives from the Division of Statewide Integrated Water Management, the Division of Flood Management, and DWR's regional offices. The group's goals are to assess current climate data acquisition efforts at DWR, promote cooperation and coordination across programs, and strategize on issues of data storage, management, and dissemination. A draft report on snow/rain trends in California was completed during 2013, with a final version to be completed in early 2014. A partnership with the Western Regional Climate Center continued for coordination of statewide climate data collection, storage and dissemination.

DWR volunteer climate data collectors were contacted and encouraged to join the Community Collaborative Rain, Hail & Snow Network. During 2013, the basic data group worked with the Western Regional Climate Center to inventory old climate records in the regional offices and integrate existing data collection and management within DWR. New projects on research into snow and rain trends using DWR and other data sources will be conducted.

### ***Policy***

#### **Development of Internal DWR Policies on Climate Change Mitigation, Analysis, and Adaptation.**

In June 2009, DWR's director formally established the CEQA Climate

Change Committee to review all climate change analyses in DWR environmental documents and exemption considerations prior to publication. Over the past 4 years, the CEQA Climate Change Committee's recommendations and approach to addressing climate change issues in CEQA documents continued to develop as new legislation and litigation has provided additional requirements, information, and context.

In 2010, the committee began a three-phase process to develop a comprehensive DWR Climate Action Plan which will contain internal policies to address climate change mitigation, effects analysis, and adaptation.

***Climate Action Plan Phase I.*** Climate Action Plan Phase I is the comprehensive DWR-wide *Greenhouse Gas Emissions Reduction Plan* that documents DWR's actions to reduce GHG emissions from its activities consistent with Assembly Bill 32 and Executive Order S-3-05. It complies with CEQA Guidelines Section 15183.5 regarding GHG reduction plans. Phase I was completed and began implementation in 2013.

***Climate Action Plan Phase II.*** Phase II will be a guidance framework and data toolbox to guide incorporation of climate change in future planning analysis of DWR projects and activities. Completion of Phase II will result in a guidance document and an accompanying climate scenario toolbox to assist DWR project managers with assessing the need for climate change analysis in their planning activities and guiding decision making for selection of analytical tools and analysis procedures, as well as assumptions about future conditions. The guidance framework will ensure that DWR projects meet standards for consistency, quality, and adequacy in climate change analysis.

In 2013, Phase II work continued with CCTAG to evaluate climate change scenarios and analysis methods. Work is

also continuing on a data toolbox that will include historical climate change analysis data as well as newly developed tools and data. All historical data has been compiled and metadata is being developed for these climate change scenarios.

**Climate Action Plan Phase III.** Phase III will be a DWR Climate Change Resiliency and Adaptation Plan. This plan will review DWR-owned and operated facilities and DWR's activities throughout the State, conduct a vulnerability analysis of these facilities and activities, and develop resiliency and adaptation strategies for the department to prepare and protect DWR's assets and services from expected changes in climate.

In 2013, an interdisciplinary team was assembled to develop the vulnerability assessment for DWR facilities and activities. The team met weekly to collaborate on progress and discuss data, tools, and analytical approaches. Analyses were conducted for wildfire and extreme heat impacts.

## Initiated during 2013

### Research

**Climate Change Impacts on California Water Rights Study.** This project will look at how changing streamflow, as a result of climate change, could potentially impact the ability of water rights holders to exercise their water rights. As the amount and timing of surface water flows change, the ability of water rights holders to divert water as they have in the past is expected to change. This study will attempt to quantify those changes and discuss the potential impacts to water users.

In 2013, a final scope of work and plan of study were developed, and a variety of different approaches to analyze the impact of climate change on California water rights were investigated. This study is expected to be completed in 2014.

## Environmental Document Review

Some environmental documents handled by the State Clearinghouse concern proposed activities that could affect the SWP. Such documents are regularly reviewed to identify any public safety or liability issues arising from the proposed activities.

During 2013, the Division of Environmental Services, Environmental Document Review Section tracked documents related to development along the California Aqueduct, levee encroachment, dam safety issues, water transfers and other water supply issues, wastewater treatment, quarry development, solar and wind power facilities, and climate change issues. Significant climate change issues increased from 2 documents in 2010 (when the State CEQA Guidelines were amended to address GHG emissions pursuant to Senate Bill 97 [2007]) to 12 in 2011, 19 in 2012, and 26 in 2013.

DWR comments submitted through the CEQA and/or NEPA processes addressed a number of issues, including safety and water supply, encroachment on physical facilities, impacts to crossdrainage facilities, correct signage for turnouts, inclusion of design standards related to storm drainage, potential for pollution in SWP water supplies, potential damage to SWP pipelines, and dams near jurisdictional size.

In 2013, the Environmental Document Review Section screened 2,586 State Clearinghouse documents. After screening, 1,083 documents were referred for information, including notices of preparation and various final documents. Additionally, 102 formal referrals were made for negative declarations, notices of preparation, EIRs, and NEPA documents.

Seventy-one formal referrals were sent to the Division of Operations and Maintenance, six to the State Water Project Analysis Office, and one to the SWP Power and Risk Office.

The total number of referrals to the Division of Operations and Maintenance and the State Water Project Analysis Office remained essentially the same as in 2012 since total SWP-related referrals decreased by only one.

In 2013, formal referrals to all other DWR reviewers, including the Central Valley Flood Protection Board and the Division of Safety of Dams, were down 25 percent from 2012. This reduction is relatively insignificant since the total number of referrals was small when compared to the total number of documents (56 were referred in 2010, 48 in 2011, 45 in 2012, and 34 in 2013). In addition, Central Valley Flood Protection Board referrals by the Environmental Document Review Section are made only if the State Clearinghouse does not directly assign an appropriate document to the board.





## Chapter 4

# Water Quality Programs

*The California Aqueduct near the Delta Field Division.*

## Significant Events in 2013

**T**he State Water Resources Control Board (SWRCB) initiated Phase 4 of the review of the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*.

The Suisun Marsh Plan was published in May 2013.

*Information in this chapter was contributed by the Division of Environmental Services, the Division of Operations and Maintenance, and the State Water Project Analysis Office.*

The State Water Project (SWP) is the largest state-built, multipurpose water project in the United States. California's existence and continued prosperity depends on water. More than two-thirds of the people of California rely partly or wholly on the SWP for their daily water needs. The Department of Water Resources (DWR), Division of Operations and Maintenance currently maintains 16 automated water quality monitoring stations at key locations along the SWP. This network of automated stations continuously monitors a variety of water quality parameters throughout the system and provides real-time data to SWP water contractors. In addition, field grab samples collected weekly, monthly, quarterly, or annually from more than 30 SWP locations are routinely analyzed for a broad range of constituents at the State's Bryte Chemical Laboratory.

## Delta Water Quality

Maintaining adequate water quality to support multiple beneficial uses of water from the San Francisco Bay/Sacramento-San Joaquin Delta (Bay-Delta) is of concern to DWR as well as other resource agencies. The State Water Resources Control Board (SWRCB) establishes water quality objectives to protect a variety of beneficial uses of water within the Bay-Delta. The objectives are contained within the water quality control plans (WQCPs) adopted by the SWRCB. Water quality objectives are also contained in Article 19 of the long-term SWP water supply contracts. The California Department of Public Health (CDPH) establishes maximum contaminant levels for treated drinking water.

The SWRCB adopted the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) on December 13, 2006 (Resolution No. 2006-0098).

The SWRCB adopted Water Right Decision 1641 (D-1641) in December 1999 (amended March 15, 2000). D-1641 implements the objectives of the Bay-Delta Plan. D-1641 amends the water rights of a number of water rights holders—primarily those for the SWP and Central Valley Project (CVP)—to help achieve the WQCP objectives.

For additional background information about the SWRCB's activities and the Bay-Delta Plan, see the sidebar, State Water Resources Control Board, and Chapter 7, Water Supply Development and Reliability.

## 2006 Bay-Delta Plan Review

Water Code Section 13240 requires that the WQCP be periodically reviewed. Federal Clean Water Act Section 303(c) (33 U.S.C. Section 1313(c)) requires a triennial review of State water quality "standards," as defined in the act.

The WQCP review and amendment process consists of review of the Bay-Delta Plan to identify elements that may need amendment or new elements that may need to be added, staff preparation of any amendments or revision of the entire WQCP, and SWRCB adoption of some or all of the amendments or revisions. SWRCB information-gathering activities may affect the scope of the WQCP review and may include a series of evidentiary hearings on critical issues concerning the Delta's ecology. The review includes both the review and update of water quality objectives (including flow objectives) and the program of implementation in the Bay-Delta Plan, as well as changes to water rights and water quality regulation consistent with the program of implementation.

## State Water Resources Control Board

The State Water Resources Control Board (SWRCB), established by the California Legislature in 1967, oversees water rights and protects water quality by setting and implementing statewide policy, administering appropriative water rights, coordinating with and supporting Regional Water Quality Control Board (RWQCB) efforts, and reviewing petitions that contest RWQCB actions. The five SWRCB members are appointed by the Governor and confirmed by the Senate. SWRCB is responsible for four major programs.

Water quality: to preserve, protect, enhance, and restore water quality.

Water rights: to issue permits for water rights specifying amounts, conditions, and construction timetables for diversion and storage.

Financial assistance: to assist local agencies and individuals with pollution prevention or clean-up.

Enforcement: to enforce water rights and water quality laws and regulations.

Under their water quality authority, the SWRCB and RWQCBs adopt water quality control plans (WQCPs) for each of the planning basins in the State. The WQCPs contain water quality objectives for flow, salinity, dissolved oxygen levels, and other parameters necessary for the protection of various beneficial uses, such as municipal and industrial, agricultural, and fish and wildlife. The SWRCB implements these objectives in a number of ways, depending on the circumstances, including imposing conditions on water rights permits and licenses.

The SWRCB amended Water Right Decision 1641 (D-1641) on March 15, 2000, which placed terms and conditions on a number of water rights, primarily those for the State Water Project (SWP) and Central Valley Project (CVP). D-1641 implemented the objectives in the 1995 Bay-Delta Plan. The Department of Water Resources and the Bureau of Reclamation operate the SWP and CVP in coordination to meet the terms in D-1641 and other applicable regulatory requirements relevant to each project.

Current water quality objectives for the Sacramento-San Joaquin Delta and Suisun Marsh are contained in the *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan), adopted December 13, 2006. The SWRCB is required to conduct periodic updates of the Bay-Delta Plan. As part of the update process, the SWRCB conducts proceedings to gather information, receive recommendations, consider public comments, and facilitate detailed discussions to evaluate new information relevant to potential changes to the water quality objectives.

Some of the recent issues of concern related to the WQCP include pelagic organism decline, special status fish species, Delta inflow, San Joaquin River flows, and southern Delta salinity.

In July 2008, the SWRCB adopted the *Strategic Workplan for Activities in the San Francisco Bay/Sacramento-San Joaquin Delta Estuary*, which prioritizes and describes the scope of individual activities and provides specificity regarding timelines and resource needs for implementing coordinated activities in the Bay-Delta.

The SWRCB is conducting the current review in four phases:

- Phase 1 involves updating San Joaquin River flow and southern Delta water quality requirements.
- Phase 2 involves other comprehensive changes to the Bay-Delta Plan to protect beneficial uses not addressed in Phase 1 (e.g., objectives for Delta outflows, Sacramento River inflows, export constraints, Delta Cross Channel gate closure requirements, and Suisun Marsh protection).
- Phase 3 will involve changes to water rights and other measures to implement changes to the Bay-Delta Plan from Phases 1 and 2.
- Phase 4 involves developing and implementing flow objectives for priority Delta tributaries outside of the Bay-Delta Plan updates.

Phase 1 began in 2009, Phase 2 began in 2012, and Phase 4 began in 2013.

In 2013, Phase 1 continued with a SWRCB hearing on the adequacy of the draft substitute environmental document released for public review and comment in December 2012. The substitute environmental document provides analysis of the potential environmental impacts of the proposed alternatives for revisions to the objectives for southern Delta salinity and San Joaquin River flows and the program of implementation for those objectives. The comment period deadline was extended from March 5 to March 29, 2013.

Phase 2 continued in 2013, with the SWRCB providing an informational update about Phase 2 at its April board meeting and the release of the final summary report on the three Phase 2 public workshops held in fall 2012. The workshops were held to receive information and discuss the scientific and technical basis for considering potential

changes to the 2006 Bay-Delta Plan. The workshop topics were ecosystem changes and the low-salinity zone; Bay-Delta fishery resources (focused on pelagic fishes and salmonids); and analytical tools for evaluating the water supply, hydrodynamic, and hydropower effects of the Bay-Delta Plan.

Phase 4 began in 2013. The SWRCB plans to consult with fisheries resource agencies and collaborate with stakeholders in the development of flow criteria and objectives for priority Delta tributaries. In July, the SWRCB submitted a request to the Delta Stewardship Council's Delta Science Program for assistance with identifying methods for determining flow criteria.

## Operations Under D-1641

In 2013, DWR and the Bureau of Reclamation (Reclamation) jointly operated the SWP and CVP in accordance with D-1641, which includes water quality, flow, and operational criteria for the SWP and CVP Delta operations. SWP and CVP operations were coordinated to meet the various objectives of the Bay-Delta Plan, Central Valley Project Improvement Act, and biological opinions (BiOps) for listed species as well as other regulatory requirements. Fish species currently listed under the Endangered Species Act and the California Endangered Species Act include the winter and spring runs of Chinook Salmon, Delta Smelt, steelhead, and Green Sturgeon.

Real-time monitoring of fish movement and conditions in the estuary aids daily water management and provides timely protection of targeted fish species from entrainment at the Delta pumping facilities.

D-1641 includes the requirement to monitor a number of stations within the Delta for specific water quality constituents. DWR conducts extensive monitoring in the Delta and the Suisun Marsh.

Figure 4-1 shows water quality compliance and monitoring stations throughout the Sacramento-San Joaquin Delta specified by D-1641.

For a discussion of other environmental issues, see Chapter 3, Environmental Programs.

### Delta Cross Channel Gates

The Delta Cross Channel gates are operated in accordance with SWRCB D-1641. In 2013, the gates were open for 159 days to allow fresher Sacramento River water to flow into interior Delta channels toward the SWP and CVP export facilities. Reclamation's standard operating procedures call for gate closure when flow on the Sacramento River at Freeport reaches between 20,000 cubic feet per second (cfs) and 25,000 cfs to reduce flooding potential on the Mokelumne River and to prevent scouring on the downstream side of the gate structure. D-1641 contains measures that require gate closure under certain conditions from November 1 through May 20 for fisheries protection as requested by the U.S. Fish and Wildlife Service (USFWS), the National Marine Fisheries Service, and the Department of Fish and Wildlife (DFW).

### Water Quality Standards

Water quality objectives in D-1641 are categorized by the beneficial uses they are intended to protect, including municipal and industrial, agricultural, and fish and wildlife. DWR operators adjust upstream releases and Delta exports to meet D-1641 water quality and flow standards. D-1641 contains salinity standards (recorded as electrical conductivity [EC]) for three stations in the South Delta downstream of Vernalis. The stations are primarily influenced by San Joaquin River flows and in-Delta diversions. San Joaquin River flows are not influenced by SWP upstream reservoirs, but local water levels may be influenced by SWP exports, and

circulation may be influenced by the annual placement of South Delta barriers.

For more information about the South Delta barriers, see Chapter 2, Delta Resources, and Chapter 3, Environmental Programs.

### 2012–2013 Water Year Hydrologic Classifications

SWRCB's D-1641 contains water quality and flow standards that are conditioned by water year type and generally become less stringent in years with less precipitation. The water year classification system provides relative estimates of a basin's available water supply based on the amounts of rainfall, snowmelt runoff, and groundwater accretion rates. Water year types are classified as "wet," "above normal," "below normal," "dry," or "critical."

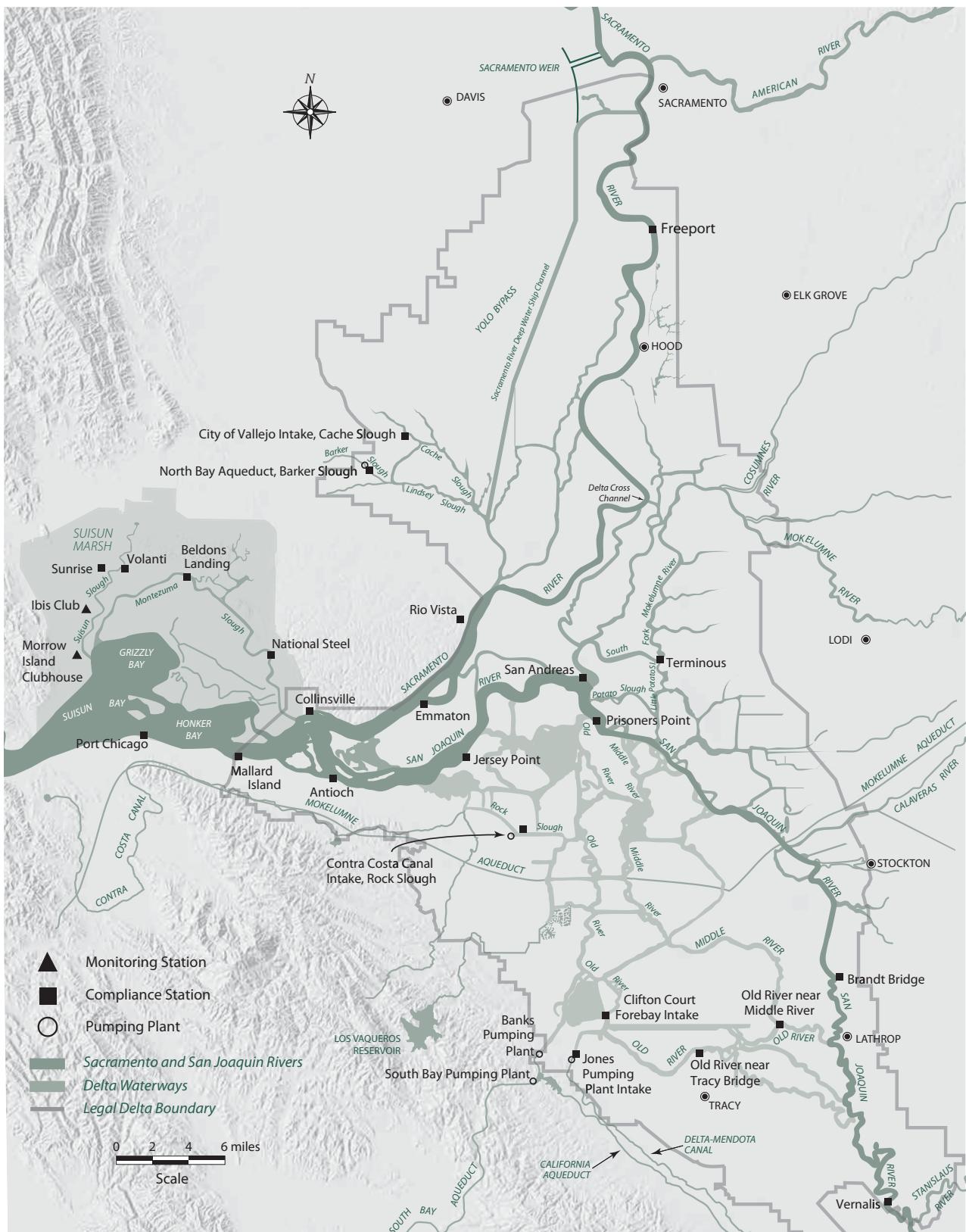
The Sacramento Valley Water Year Hydrologic Classification (Sacramento Valley 40-30-30 Index) forecast on May 1 of each year determines the water year type for the implementation of flow and water quality criteria contained in D-1641. In 2013, the SWP and CVP were operated using water quality and flow criteria based on the May 1 forecast of a dry water year for the Sacramento River basin.

The Sacramento Valley 40-30-30 Index was dry, and the San Joaquin Valley Water Year Hydrologic Classification (San Joaquin Valley 60-20-20 Index) was critical, based on observed data for water year 2012–2013.

For a detailed discussion of water year 2012–2013, see Chapter 8, Water Supply.

### Municipal and Industrial Objectives

D-1641 includes a year-round 250 milligrams per liter (mg/L) (maximum mean daily) chloride objective that is in effect at Delta export locations (Contra Costa Canal Pumping Plant No. 1, Clifton Court Forebay,



**Figure 4-1 D-1641 Water Quality Compliance and Monitoring Stations in the Sacramento-San Joaquin Delta**

Jones Pumping Plant, Cache Slough at the City of Vallejo Intake, and Barker Slough). Chloride levels remained below the objective for all days in 2013.

An additional municipal and industrial water quality objective for chloride at the Contra Costa Canal Intake, near Rock Slough, specifies that the chloride level must be below 150 mg/L for a given number of days during the year, dependent upon the water year forecast. This objective was met in calendar year 2013.

## Agricultural Objectives

D-1641 contains agricultural salinity objectives, which vary by location. The salinity objectives, recorded as EC, are based on both water year type and a 14-day running average during the irrigation season, from April to mid-August, at Emmaton, Jersey Point, Terminous, and San Andreas in the West and Central Delta. The agricultural salinity objectives at these Delta locations become less stringent under dryer conditions. Terminous, Jersey Point, and San Andreas dry water year objectives were met for calendar year 2013. However, the Emmaton dry water year objective of 0.45 millisiemens per centimeter (mS/cm) was not met for about 28 days. A portion of those days occurred after SWRCB staff agreed that critically dry water year objectives should be used for the remainder of the compliance period.

In the South Delta, the salinity objectives are based on a 30-day running average. The 1.0 mS/cm objective for the South Delta was met at Vernalis, Old River near Middle River, and Brandt Bridge. The objective was not met at Old River near Tracy Road Bridge for approximately 16 days. The 0.7 mS/cm objective for the South Delta was met at Vernalis, Old River near Middle River, and Brandt Bridge. The objective was not met at Old River near Tracy Road Bridge for approximately 83 days. The SWP and CVP

are jointly required by D-1641 to meet the agricultural EC objectives imposed at these South Delta compliance locations.

See also, Chapter 2, Delta Resources, and Chapter 7, Water Supply Development and Reliability.

## Estuarine Habitat Protection Standard

The estuarine habitat protection standard incorporates modified X2 criteria (geographic isohaline) first established in the 1994 Delta Smelt BiOp. The upstream movement of 2 parts per thousand isohaline (2 parts per thousand of salt in the water), measured as 2.64 mS/cm at the surface, is maintained within a certain range of positions in the estuary by adequate Delta outflow. These positions (Collinsville, Chipps Island, Port Chicago, or Martinez) are associated with an abundance of fish and biota.

The requirement for meeting X2 criteria at Collinsville applies to all days from February through June. The number of days per month when the daily average EC maximum (2.64 mS/cm) is in effect at Chipps Island or Port Chicago is conditioned by the previous month's Eight River Index. (The Eight River Index is the sum of the estimated unimpaired runoff from eight rivers—four in the Sacramento Valley [Sacramento River Region runoff] and four in the San Joaquin Valley [San Joaquin 4 Rivers runoff]. For more about runoff estimates, see Chapter 8, Water Supply.) This requirement may alternately be met with a maximum 14-day running average EC of 2.64 mS/cm or with specific Delta outflow, set as a 3-day average Net Delta Outflow Index (NDOI) of 7,100 cfs, 11,400 cfs, or 29,200 cfs, when the X2 position is at Collinsville, Chipps Island, or Port Chicago, respectively. The Port Chicago standard becomes effective when the Port Chicago 14-day EC average, immediately prior to the first day of the month, is less than or equal to 2.64 mS/cm.

The Eight River Index for January through May 2013, in million acre-feet, was 1.34, 1.08, 1.71, 2.02, and 1.43, respectively. The X2 habitat protection objective at Chipps Island was 28 days in February, 18 days in March, 19 days in April, 1 day in May, and 0 days in June. The X2 habitat protection objective at Port Chicago was not in effect in 2013. The X2 objectives were met in calendar year 2013 for Collinsville and Chipps Island.

## Net Delta Outflow Index Standard

Delta outflow cannot be measured directly due to the tidal influence in the Delta. Instead, an approximation of Delta outflow is calculated using measured inflows, exports, and estimated Delta water use. The NDOI was introduced in the 1995 Bay-Delta Plan and is now part of D-1641. NDOI calculates Delta outflow using inflows of the Sacramento River, the Yolo Bypass system, the eastside stream system (consisting of the Mokelumne, Cosumnes, and Calaveras rivers), the Sacramento Regional Treatment Plant, and a measurement of San Joaquin River flow at Vernalis.

Excess outflow conditions, as defined by the Coordinated Operations Agreement, allow for greater flexibility in project operations.

D-1641 sets specific minimum monthly NDOI standards for the protection of fish and wildlife based on water year type. In 2013, the monthly mean NDOI was highest in January, averaging 22,973 cfs. The lowest monthly mean NDOI occurred in October, with 4,156 cfs. All NDOI standards were met in 2013.

## River Flow Standards

D-1641 includes minimum flow requirements measured in the Sacramento River at Rio Vista. These flow standards, incorporated from the winter-run salmon BiOp, set flow requirements based on the Sacramento Valley water year classification. Water year

2012–2013 was dry, requiring mean monthly flows of 4,000 cfs for October and 4,500 cfs for November and December. During these periods, the 7-day running average could not be more than 1,000 cfs below the monthly standard. The actual mean monthly flows were 7,169 cfs in September; 4,168 cfs in October; 5,325 cfs in November; and 6,216 cfs in December.

D-1641 also specifies minimum flow requirements measured in the San Joaquin River at Vernalis. These flow standards are based on the San Joaquin Valley water year classification, which was critical for water year 2012–2013. If the X2 objective is required to be at or west of the Chipps Island location, critical year base Vernalis flows are set at 1,140 cfs from February to April 14 and from May 16 through June 30. The base-flow objective is relaxed to 710 cfs when X2 is required to be east of Chipps Island.

D-1641 requires the San Joaquin River spring pulse flow for April 15 to May 15 at Vernalis. This spring pulse flow requirement varies based on the location of X2 during April. However, the CALFED Operations Group may vary the actual timing and duration of the pulse attraction flow based on real-time monitoring data.

Additional information about San Joaquin River water quality can be found in Chapter 5, Local Assistance.

## Export Standards

D-1641 includes an export limitation for the SWP and CVP. It limits Delta exports to a ratio of Delta inflow to combined water project exports and is expressed as a maximum export rate in percentage of Delta inflow.

The actual export amount is calculated using the 3-day average that combines the inflow rate for Clifton Court Forebay (excluding Byron-Bethany Irrigation District

diversions from Clifton Court Forebay) added to the Jones Pumping Plant diversion. The export-to-inflow ratio limit is reported as either a 3-day or 14-day running average. A 14-day running average of inflows is used unless storage withdrawals from upstream reservoirs are being made for export, in which case a 3-day average of inflows is used. For all water year types, the maximum combined export rate from February through June is 35 percent of Delta inflow. This rate may be relaxed in February during years with less precipitation to between 35 and 45 percent. From July through January, the export-to-inflow ratio rises to 65 percent.

The 2008 USFWS and the 2009 National Marine Fisheries Service BiOps typically control the export rate most of the winter and spring. Under these conditions the Delta can be pushed into excess conditions more often. Additional information about the BiOps can be found in Chapter 3, Environmental Programs.

During 2013, the Delta was in excess conditions from January 1 to March 12, March 21 to April 2, and April 17 to April 24, for a total of 92 days. Within this period, combined SWP and CVP exports averaged about 23 percent of Delta inflow, meeting the 65 percent limitation in January and from July to December, while also meeting the 35 percent limitation from February to May.

The Delta was in balanced conditions from March 13 to March 20, April 3 to April 16, and from April 25 to December 31, for a total of 273 days. Within this period, combined SWP and CVP exports averaged about 32 percent of Delta inflow, meeting both the 35 percent and 65 percent limitations.

## South Delta Temporary Barriers Project

The South Delta Temporary Barriers Project, initiated as a test project in 1991, was extended for 5 years in 1996, and extended

again for 7 years in 2001. The project was created partially in response to a 1982 lawsuit filed by the South Delta Water Agency and consists of rock barriers across four South Delta channels.

These temporary seasonal barriers are designed to improve local water levels and circulation patterns, protect fishery resources, and improve water quality. They are placed across Middle River, Old River near Tracy, Grant Line Canal, and at the Head of Old River.

For more information about the temporary barriers, see Chapter 2, Delta Resources, and Chapter 3, Environmental Programs.

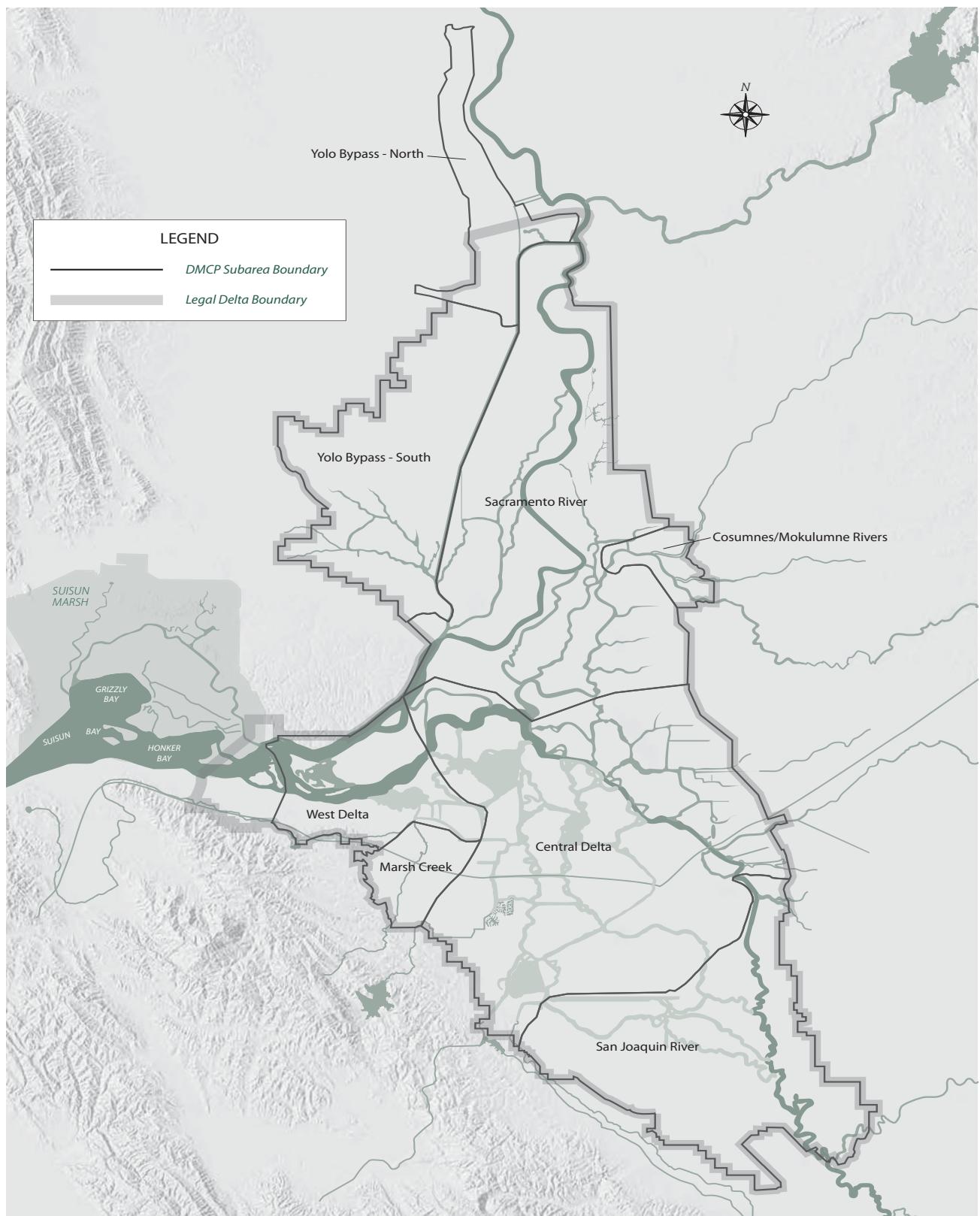
## Delta Mercury Control Program and Mercury Monitoring and Evaluation

### Background

DWR's Mercury Monitoring and Evaluation (MME) Section was established in 2012 in the Division of Environmental Services to ensure that DWR is meeting its Delta Mercury Control Program (DMCP) regulatory compliance responsibilities.

The DMCP was adopted by the Central Valley Regional Water Quality Control Board (RWQCB) in 2010 to address mercury (Hg) and methylmercury (MeHg) water quality impairments in the Delta. The DMCP subareas subject to regulation are (see Figure 4-2):

- Yolo Bypass - North;
- Yolo Bypass - South;
- Sacramento River;
- West Delta;
- Marsh Creek;
- Central Delta;
- San Joaquin River; and
- Cosumnes/Mokelumne Rivers.



**Figure 4-2 Delta Mercury Control Program Subareas Subject to Regulation**

The DMCP includes fish tissue objectives for the Delta and MeHg load allocations to meet fish tissue objectives for National Pollutant Discharge Elimination System-permitted facilities, municipal storm water, agricultural lands, wetlands, and open water activities in the Delta and Yolo Bypass.

## Program Requirements

The DMCP impacts DWR through a number of regulatory requirements. These include the Central Valley RWQCB's regulatory authority over water quality certifications; the irrigated lands regulatory program, of which DWR is a member; general discharge requirements for dredging; and other water rights regulations. SWP activities primarily affected by the DMCP include the direct operation of the SWP and aquatic restoration and enhancement project activities that are required for compliance with the CVP and SWP long-term operations BiOps, the SWP Longfin Smelt incidental take permit, and the Fish Restoration Program Agreement. MeHg management is also part of the Bay Delta Conservation Plan's conservation measures.

To comply with the load allocation, different load reductions are required for each regulated activity and region. Depending on the region and activity, MeHg loads, in some areas, must be reduced by more than 80 percent from current levels; however, management practices that lead to measurable MeHg load reductions are not well defined. Therefore, the DMCP uses a phased implementation approach for regulated entities to follow.

Phase 1 is primarily a study period when MeHg control measures are developed and evaluated. Control study results must be submitted to the RWQCB by October 2018. Between October 2018 and approximately 2020, the RWQCB will review the study results and will consider revising the fish tissue objectives and MeHg allocations.

Phase 2, which begins after the RWQCB conducts its reevaluation of the fish-tissue objectives and waste load and load allocations, will require implementation of the MeHg controls identified by the Phase I studies.

## Ongoing Work

In 2013, staff continued to work in the four areas that require DWR DMCP compliance: wetlands, open water, dredging, and the Mercury Exposure Reduction Program (MERP), an educational outreach program.

In addition to DMCP duties, staff began tracking developments associated with the Statewide Mercury Policy to control mercury in California's waters. In March 2012, the SWRCB held a California Environmental Quality Act public scoping meeting introducing the Statewide Mercury Policy and a Statewide Mercury Control Program for Reservoirs. An update was also provided on the Statewide Fish Tissue Objectives Project, a closely related project to develop MeHg fish tissue objectives. The SWRCB asked for comments from the public on the scope, content, and potential environmental effects of the proposed policy and control program. Following the scoping meeting, staff from the MME Section and other DWR divisions provided comments to the SWRCB.

The statewide policy is designed to provide overall structure for adopting water quality objectives, general implementation requirements, and control plans for mercury-impaired water bodies. The policy will provide the framework for mercury control programs in California's inland waters.

Currently, seven DWR reservoirs are listed on the federal Clean Water Act Section 303(d) list as impaired for fish consumption due to MeHg concentrations in fish tissues:

- Lake del Valle;
- Lake Oroville;

- Thermalito Afterbay;
- Castaic Lake;
- Pyramid Lake;
- O'Neill Forebay; and
- San Luis Reservoir.

## Completed Work

The following are highlights of the DMCP Phase 1 work completed in 2013 for each of DWR's regulated activities and MME staff participation in the development of the Statewide Mercury Policy.

### ***Control Study Workplan for Wetlands***

Tidal wetland control study workplan production that began in 2012 continued in 2013. DWR staff coordinated with DFW and produced two final workplans focusing on fresh and brackish water tidal wetlands. Both workplans were submitted to the RWQCB in April 2013. The decision to focus on tidal wetlands, as opposed to seasonal or permanent wetlands, was based on several factors:

- future restoration efforts will focus heavily on tidal wetlands (for example, the Bay Delta Conservation Plan and the Fish Restoration Program Agreement), rather than managed or permanent wetlands;
- few studies have focused specifically on MeHg production in tidal wetlands, and even fewer on MeHg production in fresh and brackish water tidal wetlands;
- current wetland allocations may overestimate tidal wetland contributions because tidal wetlands are structurally and ecologically very different than the permanent wetland used for allocation calculations; and
- understanding tidal wetland load production could lead to a change in the load allocations affecting DWR.

The objectives of both workplans are similar; however, one set of control studies targets

smaller, individual wetlands, while the second is a broader-scale study that focuses on Liberty Island in the lower Yolo Bypass, with the goal of determining if results gained from studying Liberty Island can be applied to tidal wetlands throughout the DMCP area.

The control study focusing on individual tidal wetlands has three objectives. They are to:

- determine if tidal wetlands are net sinks or sources of MeHg and Hg;
- determine the MeHg and Hg loads imported and exported from tidal wetlands; and
- provide data to the RWQCB for possible revisions of the MeHg load allocations for tidal wetlands.

The objectives of the control study focusing on Liberty Island are to:

- determine if the lower Yolo Bypass is a net sink or source of MeHg and Hg;
- determine major source and sink processes for MeHg in the lower Yolo Bypass by measuring MeHg and Hg in the dissolved and particulate phase; and
- provide data to the RWQCB for possible revisions of the MeHg load allocations.

At the end of July 2013, DWR and DFW received written comments from the RWQCB and the technical advisory committee retained by the RWQCB. Revised workplans were developed, with DWR assuming responsibility for conducting control studies associated with an individual wetland, and DFW assuming responsibility for conducting control studies focusing on Liberty Island. A revised workplan was submitted to the RWQCB on December 20, 2013.

### ***Control Study Workplan for Open Water***

Production of the open water control study workplan was started by the open water workgroup in 2012 and continued in 2013. The open water workgroup consists of DWR

and the other entities regulated under the open water DMCP regulation (the California State Lands Commission, the Central Valley Flood Protection Board, the U.S. Army Corps of Engineers, and Reclamation). A technical work team provides technical support. DWR staff manages the open water workgroup and technical team. The DMCP requires open water regulated entities to evaluate their activities to determine whether operational changes or other practices or strategies could be implemented to reduce ambient MeHg concentrations in Delta open water areas and floodplain areas inundated by managed floodplain flows.

In 2012, the open water workgroup evaluated several hydrodynamic and mercury models to determine which could best provide information for the Delta and the Yolo Bypass. DWR's Delta Simulation Model 2 (DSM2) hydrodynamic model was chosen for the Delta. DSM2 does not extend into the Yolo Bypass; however, DWR is currently in the process of developing a hydrodynamic model for the Yolo Bypass. For the Yolo Bypass, a mercury model was chosen after soliciting concept proposals from several consultants. For the Delta it was determined that Hg algorithms would be incorporated into DSM2. It was determined that this hydrodynamic model, coupled to an Hg model, would be used by the open water workgroup.

In 2013, the open water workgroup and technical team produced the open water workplan and submitted it to the RWQCB on April 20. The objectives of the open water workplan were to:

- provide working models for Hg and MeHg supply, transport, and fate in the open waters of the Delta and Yolo Bypass;
- apply the models to identify processes governing MeHg supply to the Delta and Yolo Bypass; and
- apply the models to examine the potential impacts of proposed operational

changes in water management and flood conveyance in the Delta and Yolo Bypass on MeHg supply, and compare it to total maximum daily load allocations.

Empirical data will be used to help meet the objectives. This will include collecting sample data in the Yolo Bypass and the laboratory to develop a better understanding of fundamental MeHg processes in flooding events.

At the end of July 2013, the open water workgroup received written comments from the RWQCB and the technical advisory committee retained by the RWQCB. A revised workplan and a technical memorandum providing detailed information on the modeling and field approaches were submitted to the RWQCB by the December 20, 2013, deadline. The revised workplan removed much of the laboratory work in favor of large mesocosm (scale-model working ecosystem) experiments to generate rate constants for the model.

Additional funding and technical support for modeling and field activities were acquired in 2013.

In September 2013, DWR and consultant modelers met to begin solidifying modeling approaches and integrating work between the two modeling groups. Monthly modeling meetings were also started and facilitated by MME Section staff.

### ***Dredging Study Workplan***

Regulated dredging entities are required to submit study workplans to the RWQCB for evaluating MeHg and Hg discharges from dredging and dredge material reuse to develop and evaluate management practices to minimize increases in MeHg and Hg discharges.

In 2013, MME staff completed their DWR-wide survey, documenting that DWR

currently does not have any active or anticipated dredging within the Phase 1 time period. Based on survey results, MME staff worked with RWQCB staff to reach an agreement on DWR's responsibilities under the dredging section of the DMCP. RWQCB staff agreed that all DMCP dredging workplan and reporting requirements did not apply to DWR. In October 2013, DWR sent a letter to this effect to the RWQCB.

### ***Mercury Exposure Reduction Program***

The objective of the MERP is to reduce mercury exposure of Delta fish consumers most likely affected by mercury. The DMCP required regulated entities, either individually, collectively, or based on the Exposure Reduction Strategy, to submit an Exposure Reduction workplan for RWQCB approval by October 20, 2013.

In 2013, MME staff participated in the MERP workplan process, and the workplan was finalized in October 2013.

### ***Statewide Mercury Control Policy and Mercury Control Program for Reservoirs***

In 2013, the RWQCB began outreach to interested stakeholders to seek input and participation in their proposed implementation approach to reduce MeHg concentrations in fish tissues of impacted reservoirs. DWR staff participated in an outreach effort focusing on reservoir owners and operators within the jurisdiction of the San Francisco RWQCB. DWR's Lake del Valle falls within this jurisdictional boundary and, based on fish tissue levels, is listed under federal Clean Water Act Section 303(d) as mercury impaired.

## **Special Study and Biological Surveys**

DWR conducts several special studies and biological surveys each year. This includes a special study in the Stockton Deep

Water Ship Channel (DWSC) during the late summer and early fall to monitor the occurrence of low DO levels. Low DO levels potentially cause physiological stress to fish and block the migration of salmon into the San Joaquin River. DWR also conducts biological surveys of benthic organism density and diversity and of phytoplankton biomass and community composition in the Sacramento-San Joaquin Delta, Suisun Bay, and San Pablo Bay.

### ***Fall Dissolved Oxygen Study in the Stockton DWSC***

Historically, during the late summer and early fall, DO levels in the eastern and central portions of the Stockton DWSC have dropped below both the 5.0 mg/L and 6.0 mg/L water quality objectives set by SWRCB and the RWQCB, respectively. These low DO levels are a result of several factors, including low San Joaquin River inflows, water temperatures, high biochemical oxygen demand, reduced tidal circulation, and intermittent reverse flow conditions in the San Joaquin River at Stockton.

To help reduce the severity of these low DO conditions, DWR normally installs a temporary rock barrier across the Head of Old River during periods of projected low fall flows in the San Joaquin River.

In 2013, the spring barrier was not installed due to uncertainty about the benefits of the barrier to migrating salmonid survival through the Delta. The fall barrier at the Head of Old River was not installed in 2013 because the existing flows and DO levels in the San Joaquin River were sufficient for Chinook Salmon, and it was not requested by DFW.

### ***Methods***

Monitoring DO concentrations in the Stockton DWSC was conducted by boat on 12 monitoring runs, from June 6 to November 20, 2013. During each run,

14 sites were sampled at low-water slack tide from Prisoners Point in the Central Delta to the Stockton Turning Basin at the terminus of the ship channel. Because monitoring results differ within the channel, sampling stations were grouped into western, central, and eastern regions. The western region of the channel begins at Prisoners Point and ends at Columbia Cut. The central region of the channel begins one-half mile east of Columbia Cut and ends at Fourteen Mile Slough. Finally, the eastern region of the channel begins at Buckley Cove and ends at Rough and Ready Island. The turning basin is unique within the channel because it is east of the entry point of the San Joaquin River into the channel and isolated from down-channel flows.

## Results

During the period of this study, DO levels varied by season and exhibited similar ranges between regions within the channel excluding the turning basin. The overall study period range was 5.8 to 9.3 mg/L at the surface and 5.5 to 9.2 mg/L at the bottom. In the western portion of the channel, DO concentrations ranged from 6.8 to 9.3 mg/L at the surface and 6.9 to 9.2 mg/L at the bottom. In the central portion of the channel, DO concentrations were variable, ranging from 6.1 to 9.2 mg/L at the surface and 6.1 to 9.0 mg/L at the bottom. In the eastern portion of the channel, DO levels were similar to the other regions, ranging from 5.8 to 9.3 mg/L at the surface and 5.5 to 9.0 mg/L at the bottom. In 2013, DO concentrations never fell below the 5.0 mg/L or 6.0 mg/L objectives.

Higher San Joaquin River inflows, as well as the absence of intermittent reverse flows near Stockton, coincided with improved DO conditions. Further monitoring operations for the fall 2013 special study were suspended after November 20.

## Benthic Survey

The operation of the SWP can impact flow characteristics of the upper San Francisco Estuary and subsequently influence the density and distribution of benthic biota. Benthic biota are relatively long-lived and can respond to changes in physical factors within the estuary, such as fresh water inflows, salinity, and substrate composition. The benthic monitoring program documents changes in the composition, abundance, density, and distribution of the benthic biota within the estuary. Biological surveys conducted under the benthic monitoring program provide an indication of physical changes occurring within the upper estuary. In addition, benthic monitoring data are also used to detect and document the presence of newly introduced species within the upper estuary.

Benthic monitoring was conducted at 10 sampling sites distributed throughout the major habitat types within the estuary:

- Clifton Court Forebay Intake;
- San Joaquin River at Buckley Cove and at Twitchell Island;
- Old River opposite Rancho del Rio;
- Sacramento River below the Rio Vista Bridge and above Point Sacramento;
- Suisun Bay at Bulls Head Point;
- Grizzly Bay at Dolphin near Suisun Slough; and
- San Pablo Bay near Pinole Point and near the mouth of the Petaluma River.

Four bottom grab samples for benthic analysis and one sample for sediment analysis were collected monthly at each site during 2013. Samples were analyzed to identify organisms to the lowest possible identifiable taxon and to count all organisms collected.

DWR maintains a database of benthic organisms located within the upper estuary. The benthic database is dynamic and

regularly undergoes peer review and update. When a new organism is identified at any of the sampling stations it is added to the database. In addition, the taxonomic names of organisms on the list are updated when sufficient evidence is produced to warrant such changes.

The benthic monitoring program collects a large number of organisms, but a relatively small number of species. A total of 183 species of benthic macrofauna were collected in 2013 at the 10 sampling sites. Of the 183 species, 10 represented 86 percent of all organisms collected:

- amphipods: *Ampelisca abdita*, *Americorophium spinicorne*, *Corophium alienense*, and *Gammarus daiberi*;
- Asian clams: *Potamocorbula amurensis* and *Corbicula fluminea*;
- sabellid polychaete: *Manayunkia speciosa*;
- tubificid worms: *Limnodrilus hoffmeisteri* and *Varichaetadrilus angustipenis*; and
- ostracod: *Cyprideis sp. A.*

Of the 10 dominant species, *Potamocorbula amurensis* and *Ampelisca abdita* represent macrofauna that inhabit a typically high saline environment and were found in San Pablo Bay, Suisun Bay, and Grizzly Bay. *Corophium alienense* and *Americorophium spinicorne* tolerate a wider range of salinity. They were collected both in the higher saline western sites and the more brackish to fresh water eastern sites such as the San Joaquin River at Twitchell Island and the Sacramento River above Point Sacramento. The remaining six species, *Gammarus daiberi*, *Manayunkia speciosa*, *Limnodrilus hoffmeisteri*, *Varichaetadrilus angustipenis*, *Corbicula fluminea*, and *Cyprideis sp. A* are predominantly fresh water species and were collected at sites east of Suisun Bay.

## Phytoplankton and Chlorophyll *a* Survey

Phytoplankton are small, free-floating or attached algae that can be tiny, single-celled organisms (less than 5 micrometers in diameter) or larger colonial organisms. Phytoplankton are an important source of food in the estuary for zooplankton, invertebrates, and some species of fish. Phytoplankton biomass is an indicator of the status of primary productivity in the estuary. Chlorophyll *a* is one of the main groups of pigments contained in the algal species that make up phytoplankton.

Monthly sampling of chlorophyll *a* concentrations and phytoplankton was conducted in 2013 by DWR's Bay-Delta Monitoring Branch at 13 stations throughout the upper San Francisco Estuary:

- Sacramento River at Greene's Landing/ Hood and above Point Sacramento;
- San Joaquin River at Vernalis, Buckley Cove, and Potato Point;
- Old River opposite Rancho del Rio;
- Disappointment Slough near Bishop Cut;
- Frank's Tract near Russo's Landing;
- Suisun Bay at Bulls Head Point near Martinez and off Middle Point near Nichols;
- Grizzly Bay at Dolphin near Suisun Slough; and
- San Pablo Bay near Pinole Point and near the mouth of the Petaluma River.

Chlorophyll *a* concentration was measured at the 13 monitoring stations to estimate overall phytoplankton biomass in the estuary. Phytoplankton samples were collected and analyzed separately to determine which species were present in the estuary.

Monthly chlorophyll *a* concentrations throughout much of the estuary were relatively low. Of the 155 samples taken

in 2013, 89.7 percent (139 samples) had chlorophyll *a* levels below 10 micrograms per liter (µg/L). Chlorophyll *a* levels below 10 µg/L are considered limiting for zooplankton growth. Of the 16 samples with chlorophyll *a* concentrations above 10 µg/L, one was from Frank's Tract near Russo's Landing in April; one was from the Sacramento River above Point Sacramento in March; two were from the San Joaquin River at Potato Point in April and September; three were from Disappointment Slough near Bishop Cut in April, September, and October; and nine were from the San Joaquin River at Vernalis from February through October. The mean chlorophyll *a* concentration for all samples in 2013 was 6.32 µg/L; the median value was 2.13 µg/L. In 2012, the mean was lower (5.04 µg/L), but the median was similar (2.08 µg/L). The maximum chlorophyll *a* concentration in 2013 was 184.76 µg/L, recorded in July on the San Joaquin River at Vernalis. It was slightly higher than the maximum in 2012 (131 µg/L). The minimum chlorophyll *a* concentration was 0.35 µg/L, recorded in January in San Pablo Bay near the mouth of the Petaluma River.

Phytoplankton biomass and resulting chlorophyll *a* concentrations in some areas of the estuary may be influenced by extensive filtration of the water column by the introduced Asian clam, *Potamocorbula amurensis*. Well-established benthic populations of *P. amurensis* in Suisun and San Pablo bays are thought to have contributed to the low chlorophyll *a* concentrations (and increased water clarity) measured in these westerly bays since the mid-1980s.

In addition to monitoring for chlorophyll *a*, water samples were analyzed for pheophytin *a*.

Pheophytin *a* is a primary degradation product of chlorophyll *a*, and its relative concentration is useful for estimating the

general physiological state of phytoplankton populations. When phytoplankton are actively growing, the concentrations of pheophytin *a* are normally expected to be low in relation to chlorophyll *a*. The mean pheophytin *a* concentration for all samples in 2013 was 1.35 µg/L, and the median value was 0.92 µg/L. The maximum pheophytin *a* concentration was 12.05 µg/L, recorded on the San Joaquin River at Vernalis in June. The minimum pheophytin *a* concentration was 0.15 µg/L, recorded in San Pablo Bay near the mouth of the Petaluma River in January.

Centric diatoms, cyanobacteria, pennate diatoms, cryptomonad flagellates, and green algae constituted 99.8 percent of the organisms collected in 2013.

All organisms collected in 2013 fell into these 14 categories (in order of abundance):

- (1) centric diatoms (class Coscinodiscophyceae);
- (2) cyanobacteria (class Cyanophyceae);
- (3) pennate diatoms (classes Bacillariophyceae and Fragilarophyceae);
- (4) cryptomonad flagellates (class Cryptophyceae);
- (5) green algae (classes Chlorophyceae, Prasinophyceae, and Zygnematophyceae);
- (6) chrysophyte flagellates (class Chrysophyceae);
- (7) euglenoid flagellates (class Euglenophyceae);
- (8) dinoflagellates (class Dinophyceae);
- (9) xanthophyte flagellates (class Xanthophyceae);
- (10) raphidophyte flagellates (class Raphidophyceae);
- (11) unknown phytoplankton (classes unknown);
- (12) haptophyte flagellates (class Prymnesiophyceae);

- (13) coccolithophores (class *Coccolithophyceae*); and
- (14) silicoflagellates (class *Dictyochophyceae*).

The 10 most common genera collected in 2013 were:

- (1) *Cyclotella* (centric diatom);
- (2) *Chroococcus* (cyanobacterium);
- (3) *Leptolyngbya* (cyanobacterium);
- (4) *Entomoneis* (pennate diatom);
- (5) *Phormidium* (cyanobacterium);
- (6) *Aulacoseira* (centric diatom);
- (7) *Nitzschia* (pennate diatom);
- (8) *Pseudostaurosira* (pennate diatom);
- (9) *Navicula* (pennate diatom); and
- (10) *Cocconeis* (pennate diatom).

The large fall blooms of 2011 and 2012 did not repeat in 2013, though there were some chlorophyll *a* values over 10 µg/L recorded in the fall at some upstream stations.

Similar to 2012, there was a spring bloom of the pennate diatom *Entomoneis* *sp.*; however, the 2013 bloom occurred in March instead of May, and was located in the Sacramento River above Point Sacramento instead of Suisun Bay.

## Activities Outside the Delta

Routine SWP water quality monitoring activities and special studies are conducted outside the Delta. The special studies are in response to increasingly stringent regulations facing water purveyors who rely on DWR to deliver high-quality raw water. Most of these special studies were initiated because of fish and wildlife and water quality concerns held by agencies that provide domestic water service.

## Water Quality Monitoring in the SWP

DWR's Division of Operations and Maintenance monitors water quality throughout the SWP. This monitoring program has more than 40 sampling stations and analyzes more than 200 chemical, biological, and physical constituents. DWR operates monitoring stations at SWP storage and conveyance facilities located throughout the State, from the Feather River watershed in the north to Lake Perris in the south. Conveyance facilities include the Oroville Facilities, California Aqueduct with the East and West Branches, North Bay Aqueduct, South Bay Aqueduct, and the San Luis Joint-Use Complex. DWR collects and analyzes samples monthly at most stations, although the frequency can vary from weekly to annually depending on location, time of year, or special events. DWR sends the water samples to its Bryte Chemical Laboratory in West Sacramento for processing and analysis. Constituents analyzed include dissolved solids; nutrients; minerals such as chloride, sulfate, and sodium; trace metals; herbicides; pesticides; and organic substances.

DWR's water quality monitoring program also uses a network of 16 automated monitoring stations at key locations along the SWP. This network provides real-time data by continuously monitoring a variety of physicochemical parameters such as specific conductance, turbidity, pH, UV<sub>254</sub> (254 nanometer ultraviolet absorbance; measures dissolved organic carbon), and fluorometry (a measurement of algal biomass). SWP contractors rely on this essential data to assess the quality of water delivered by the SWP.

The water quality monitoring program is an important operational component of the SWP. DWR uses the data to evaluate water quality changes in the SWP, short- and long-term trends, and impacts from emergencies

such as spills and pipe ruptures. DWR also utilizes the data to influence operations and to determine the quality of drinking water as defined by the California Department of Public Health (CDPH). The findings are disseminated through a variety of media including memos, network postings, conference calls, and email distribution. DWR periodically conducts special studies to investigate the impacts of specific incidents affecting SWP water quality. The special studies include non-SWP water turn-ins, floodwater inflows, hydrology, and Delta hydrodynamics. The Division of Operations and Maintenance posts a number of water quality reports on DWR's website.

During 2013, water quality was assessed monthly at eight SWP facilities and at the CVP's Delta-Mendota Canal (see Table 4-1). Specific conductance (EC) averaged 90 microsiemens per centimeter ( $\mu\text{S}/\text{cm}$ ) at Thermalito Afterbay; 332  $\mu\text{S}/\text{cm}$  at the North Bay Aqueduct, Barker Slough Pumping Plant; 584  $\mu\text{S}/\text{cm}$  at the Delta-Mendota Canal; and 492 to 522  $\mu\text{S}/\text{cm}$  in the California Aqueduct. Dissolved organic carbon was highest at the North Bay Aqueduct (5.3 mg/L), while concentrations in the California Aqueduct ranged from 2.7 to 3.9 mg/L. The North Bay Aqueduct exhibited higher levels of turbidity (25 NTU [nephelometric turbidity units]) compared with other locations. Mean arsenic concentrations ranged from 0.002 to 0.003 mg/L at all locations, except Thermalito Afterbay, which had no detectable arsenic ( $<0.001 \text{ mg/L}$ ). Bromide ranged from  $<0.01 \text{ mg/L}$  at Thermalito Afterbay to 0.27 mg/L at Check 21. Water quality in the Oroville Facilities was very good with nondetectable to low levels of minerals, nutrients, and most minor elements. Alkalinity and total dissolved solid concentrations were 40 mg/L and 55 mg/L, respectively.

In 2013, DWR sampled for pesticides, herbicides, and other organic compounds in March, June, and September (see Table 4-2).

The concentrations of the detected herbicides ranged from 0.01 to 1.1  $\mu\text{g/L}$ . The herbicide simazine ranged from 0.02 to 0.06  $\mu\text{g/L}$  in the Delta-Mendota Canal and the SWP, except at Check 21 where it was not detected. Dacthal (DCPA) was reported at all locations. Metolachlor was detected at the North Bay Aqueduct, Delta-Mendota Canal, and Banks Pumping Plant. The chemical 2,4-dichlorophenoxyacetic acid (2,4-D) was detected at Banks Pumping Plant. Other detected pesticides were atrazine, diuron, and 2,4-dichlorophenylacetic acid (DCAA). Of the seven detected herbicides, DCAA had the highest concentration (1.1  $\mu\text{g/L}$ ), followed by 2,4-D and diuron (0.3  $\mu\text{g/L}$ ), metolachlor (0.1  $\mu\text{g/L}$ ), simazine (0.06  $\mu\text{g/L}$ ), atrazine (0.05  $\mu\text{g/L}$ ), and Dacthal (0.04  $\mu\text{g/L}$ ).

Additional SWP water quality data are available on DWR's website.

## Non-project Turn-ins

Non-SWP water can be admitted to the California Aqueduct for conveyance and redistribution. Non-SWP water is considered to be any input to the SWP for conveyance by the SWP that is not directly diverted from the Delta. According to California Water Code Section 1810, no agency may deny a transferor of water the use of a water conveyance which has unused capacity if fair compensation is paid. Inputs to the California Aqueduct from these sources are called turn-ins.

Turn-in water may be used for local redistribution or transfer to other water contractors. Participants of an approved turn-in program can use available aqueduct capacity to move candidate waters from a point of availability to a point of need. Groundwater substitutions can also be made whereby surface water diversions are reduced by replacing that water with a like amount of groundwater. In this manner, more surface water is made available for transfer to other users. These voluntary

**Table 4-1 Mean Water Quality at Selected SWP Grab Sample<sup>a</sup> Locations in 2013**

| Constituent               | Units <sup>b</sup>        | Reporting Limit | Thermalito<br>Afterbay<br>at Outlet                            | Barker<br>Slough<br>Pumping<br>Plant | Upstream<br>of McCabe<br>Road | Banks<br>Pumping<br>Plant                  | O'Neill<br>Forebay<br>Outlet<br>(Check 13) | Kettleman<br>City<br>(Check 21)      | Near<br>Highway<br>119<br>(Check 29) | Tehachapi<br>Afterbay<br>(Check 41)   | Devil<br>Canyon<br>Second<br>Afterbay |
|---------------------------|---------------------------|-----------------|--|--------------------------------------|-------------------------------|--|--|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|
|                           |                           |                 | North Bay<br>Aqueduct,<br>Barker<br>Slough<br>Pumping<br>Plant | Delta-<br>Mendota<br>Canal           | Delta-<br>Mendota<br>Canal    | O'Neill<br>Forebay<br>Outlet<br>(Check 13) | Kettleman<br>City<br>(Check 21)            | Near<br>Highway<br>119<br>(Check 29) | Tehachapi<br>Afterbay<br>(Check 41)  | Devil<br>Canyon<br>Second<br>Afterbay |                                       |
| Alkalinity                | mg/L as CaCO <sub>3</sub> | 1               | 40   | 99                                   | 85                            | 72   | 76   | 75                                   | 72                                   | 72                                    | 77                                    |
| Antimony                  | mg/L                      | 0.001           | <0.001   | <0.001                               | <0.001                        | <0.001                                     | <0.001                                     | <0.001                               | <0.001                               | NR                                    | NR                                    |
| Arsenic                   | mg/L                      | 0.001           | <0.001   | 0.002                                | 0.002                         | 0.002                                      | 0.002                                      | 0.002                                | 0.003                                | 0.003                                 | 0.002                                 |
| Beryllium                 | mg/L                      | 0.001           | <0.001   | <0.001                               | <0.001                        | <0.001                                     | <0.001                                     | <0.001                               | <0.001                               | <0.001                                | <0.001                                |
| Boron                     | mg/L                      | 0.1             | <0.1   | 0.2                                  | 0.3                           | 0.2  | 0.2  | 0.2                                  | 0.2                                  | 0.2                                   | 0.2                                   |
| Bromide                   | mg/L                      | 0.01            | <0.01  | 0.03                                 | 0.26                          | 0.23                                       | 0.26                                       | 0.27                                 | 0.23                                 | 0.26                                  | 0.25                                  |
| Calcium                   | mg/L                      | 1               | 8  | 16                                   | 25                            | 20   | 22   | 21                                   | 23                                   | 23                                    | 24                                    |
| Chloride                  | mg/L                      | 1               | <1   | 23                                   | 83                            | 75   | 83   | 84                                   | 75                                   | 81                                    | 80                                    |
| Chromium                  | mg/L                      | 0.001           | <0.001   | <0.001                               | <0.001                        | <0.001                                     | <0.001                                     | <0.001                               | <0.001                               | <0.001                                | <0.001                                |
| Copper                    | mg/L                      | 0.001           | <0.001   | 0.002                                | 0.001                         | 0.001                                      | 0.001                                      | 0.001                                | <0.001                               | <0.001                                | 0.002                                 |
| Hardness                  | mg/L as CaCO <sub>3</sub> | 1               | 36   | 99                                   | 127                           | 108  | 114  | 109                                  | 109                                  | 103                                   | 109                                   |
| Iron                      | mg/L                      | 0.005           | 0.005  | 0.02                                 | 0.016                         | 0.021                                      | 0.011                                      | 0.012                                | 0.008                                | 0.006                                 | 0.006                                 |
| Lead                      | mg/L                      | 0.001           | <0.001   | <0.001                               | <0.001                        | <0.001                                     | <0.001                                     | <0.001                               | <0.001                               | <0.001                                | <0.001                                |
| Magnesium                 | mg/L                      | 1               | 4  | 14                                   | 16                            | 14   | 15   | 14                                   | 12                                   | 11                                    | 12                                    |
| Manganese                 | mg/L                      | 0.005           | <0.005   | 0.015                                | 0.005                         | 0.009                                      | <0.005                                     | <0.005                               | <0.005                               | <0.005                                | <0.005                                |
| Nitrite + Nitrate         | mg/L as N                 | 0.01            | <0.01  | 0.26                                 | 0.87                          | 0.52                                       | 0.52                                       | 0.42                                 | 0.60                                 | 0.72                                  | 0.54                                  |
| Organic Carbon, Dissolved | mg/L as C                 | 0.5             | NR   | 5.3                                  | 3.7                           | 3.9  | 3.7  | 3.7                                  | 3.2                                  | 2.7                                   | 3.1                                   |
| Organic Carbon, Total     | mg/L as C                 | 0.5             | NR   | 6.1                                  | 3.8                           | 4.2  | 3.8  | 3.7                                  | 3.1                                  | 2.8                                   | 3.4                                   |
| Orthophosphate            | mg/L as P                 | 0.01            | <0.01  | 0.13                                 | 0.08                          | 0.08                                       | 0.07                                       | 0.07                                 | 0.05                                 | 0.04                                  | 0.04                                  |
| Phosphorus, Total         | mg/L                      | 0.01            | <0.01  | 0.2                                  | 0.11                          | 0.1  | 0.09                                       | 0.08                                 | 0.07                                 | 0.07                                  | 0.07                                  |
| Selenium                  | mg/L                      | 0.001           | <0.001   | <0.001                               | <0.001                        | <0.001                                     | <0.001                                     | <0.001                               | <0.001                               | <0.001                                | <0.001                                |
| Sodium                    | mg/L                      | 1               | 3  | 28                                   | 64                            | 56   | 60   | 61                                   | 62                                   | 61                                    | 60                                    |
| Specific Conductance      | µS/cm                     | 1               | 90   | 332                                  | 584                           | 492  | 516  | 521                                  | 504                                  | 522                                   | 521                                   |
| Sulfate                   | mg/L                      | 1               | 2  | 23                                   | 55                            | 38   | 41   | 41                                   | 43                                   | 47                                    | 43                                    |
| Total Dissolved Solids    | mg/L                      | 1               | 55   | 180                                  | 318                           | 280  | 294  | 289                                  | 284                                  | 293                                   | 289                                   |
| Turbidity                 | NTU                       | 1               | 2  | 25                                   | 5                             | 7  | 4  | 2                                    | 3                                    | 4                                     | 2                                     |
| Zinc                      | mg/L                      | 0.005           | <0.005   | <0.005                               | <0.005                        | <0.005                                     | <0.005                                     | <0.005                               | 0.004                                | <0.005                                | <0.005                                |

<sup>a</sup> A grab sample is a single sample chosen to represent the conditions in a given matrix (usually natural water) at a specific location, depth, and time. All reported values for the listed constituents are the mean of laboratory analytical values of water sampled from January through December. The annual mean may be based upon 1 to 29 samples. When one or more analytical results for a constituent are non-detect, the annual mean is calculated using "0" for the non-detect results.

<sup>b</sup> mg/L = milligrams per liter; µS/cm = micromhos per centimeter; NTU = nephelometric turbidity unit; NR = No data recorded at this location.

**Table 4-2 Pesticides, Herbicides, and Other Organic Substances Detected in the SWP in 2013**

| Sampling Location <sup>a</sup>                           | Sampling Station ID Number | Sample Date | Chemical Detected <sup>b</sup> | Concentration (µg/L) <sup>c</sup> |
|--|----------------------------|-------------|--------------------------------|-----------------------------------|
| North Bay Aqueduct, Barker Slough Pumping Plant          | KG000000                   | 3/20/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/20/13     | Metolachlor                    | 0.1                               |
|  |                            | 3/20/13     | Simazine                       | 0.04                              |
|  |                            | 6/19/13     | Metolachlor                    | 0.1                               |
| Delta-Mendota Canal upstream of McCabe Road              | DMC06716                   | 3/19/13     | DCAA <sup>d</sup>              | 1                                 |
|  |                            | 3/19/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/19/13     | Diuron                         | 0.25                              |
|  |                            | 3/19/13     | Simazine                       | 0.04                              |
|  |                            | 6/18/13     | DCAA <sup>d</sup>              | 1.1                               |
|  |                            | 6/18/13     | Atrazine                       | 0.02                              |
| California Aqueduct at Banks Pumping Plant               | KA000331                   | 6/18/13     | Metolachlor                    | 0.1                               |
|  |                            | 3/20/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/20/13     | Diuron                         | 0.3                               |
|  |                            | 3/20/13     | Simazine                       | 0.04                              |
|  |                            | 6/19/13     | 2,4-D                          | 0.3                               |
|  |                            | 6/19/13     | Atrazine                       | 0.05                              |
|  |                            | 6/19/13     | Dacthal (DCPA)                 | 0.01                              |
| California Aqueduct at O'Neill Forebay Outlet (Check 13) | KA007089                   | 6/19/13     | Metolachlor                    | 0.1                               |
|  |                            | 3/19/13     | Diuron                         | 0.25                              |
|  |                            | 3/19/13     | Simazine                       | 0.05                              |
|  |                            | 6/18/13     | Dacthal (DCPA)                 | 0.01                              |
|  |                            | 6/18/13     | Simazine                       | 0.02                              |
| California Aqueduct near Kettleman City (Check 21)       | KA017226                   | 3/19/13     | Dacthal (DCPA)                 | 0.02                              |
| California Aqueduct near Highway 119 (Check 29)          | KA024454                   | 3/19/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/19/13     | Simazine                       | 0.06                              |
|  |                            | 6/24/13     | Dacthal (DCPA)                 | 0.04                              |
| California Aqueduct at Tehachapi Afterbay (Check 41)     | KA030341                   | 3/20/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/20/13     | Simazine                       | 0.06                              |
|  |                            | 6/19/13     | Simazine                       | 0.03                              |
| California Aqueduct at Devil Canyon Second Afterbay      | KA041323                   | 3/20/13     | Dacthal (DCPA)                 | 0.02                              |
|  |                            | 3/20/13     | Simazine                       | 0.05                              |
|  |                            | 6/19/13     | Simazine                       | 0.02                              |

<sup>a</sup> Water at these locations is normally sampled during March, June, and September.<sup>b</sup> Only chemicals found in detectable amounts at the sampling stations are included in this table. Refer to the document entitled *Analytical Methods for Organic Chemicals* for a complete listing of all organic chemicals included in the laboratory analysis. The document is available on DWR's website.<sup>c</sup> µg/L = micrograms per liter.<sup>d</sup> DCAA = 2,4-dichlorophenylacetic acid

water transfers aid in supplying water to areas experiencing shortages, usually during periods of drought or years with below-normal runoff.

Participants of turn-in programs include both SWP and non-SWP contractors that bank groundwater and routinely convey it into the California Aqueduct at various locations. Although most non-SWP turn-ins to the aqueduct originate as groundwater from Kern and Kings counties, other waters include excess surface flows or floodwaters typically from southern Sierra Nevada watersheds. Surface water turn-ins have included excess floodwaters from the Kings River redirected through the Mendota Pool and pumped into the California Aqueduct.

Certain conditions must be met before a turn-in proponent can be given approval to convey water into the California Aqueduct. In accordance with California Water Code Section 1810, water may be conveyed or transferred via any unused capacity of the aqueduct provided that the comingled water does not result in degradation of water quality. The transfer must also be made without unreasonably affecting fish, wildlife, or other instream beneficial uses.

DWR established interim procedures and criteria to review turn-in proposals and determine their approval for acceptance into the aqueduct using a two-tiered approach. According to the policy, the proponent of any turn-in proposal shall demonstrate that the water is of consistent, predictable, and acceptable quality. Prospective turn-in entities are required to submit proposals describing their turn-ins, including information such as detailed water quality monitoring and analyses, source water description, identification of wells, inflow rates, and duration. Tier 1 programs have “no adverse impacts” based on historical water quality in the California Aqueduct. Programs meeting Tier 1 criteria are approved by DWR without referral to the

State Water Contractor Facilitation Group for outside review. Proposals are classified as Tier 2 programs when turn-in water quality is generally lower than historical aqueduct conditions and it has the potential to cause adverse impacts. Tier 2 programs are referred to the State Water Contractor Facilitation Group for review. The facilitation group consists of DWR and representatives from each water contractor that chooses to participate. The group reviews Tier 2 proposals based on merits, impacts, mitigation, water quality monitoring, cost, benefits, or other issues. The group then provides recommendations to DWR regarding proposal approval. Staff at DWR consider all factors before making a decision on any turn-in proposal.

A total of 336,857 acre-feet (af) of non-SWP turn-in water was admitted to the California Aqueduct in the San Luis and San Joaquin field divisions during 2013 (see Table 4-3). Monitoring of constituents of concern showed aqueduct water quality was affected, both positively and negatively, but the effects were sometimes inconsistent and depended on a variety of factors such as water quality parameters, turn-in source, and relative flows.

In the San Luis Field Division, 11,672 af of surface water from the San Joaquin Valley was pumped into the California Aqueduct. The inflows usually did not result in substantial changes in water quality due, in part, to low relative inflows. Regardless of this, consistent, low-level increases were observed for parameters such as sulfate, chloride, and salinity, none of which exceeded drinking water maximum contaminant level concentrations. Nitrate concentrations consistently declined due to the inflows.

In the San Joaquin Field Division, 325,185 af of groundwater was pumped into the California Aqueduct from Kern Water Bank Canal (55 percent of the total), Semitropic

**Table 4-3 Turn-ins to the California Aqueduct in 2013**

| Groundwater Source                               | Amount (acre-feet) |
|--|--------------------|
| Kern Water Bank Authority, Kern Water Bank Canal | 177,751            |
| Semitropic Water Storage District                | 64,651             |
| Cross Valley Canal                               | 42,957             |
| Arvin-Edison Water Storage District              | 33,205             |
| Wheeler Ridge-Maricopa Water Storage District    | 5,361              |
| West Kern Water District                         | 1,260              |
| Westlands Water District                         | 11,672             |
| <b>Total</b>                                     | <b>336,857</b>     |

Water Storage District (20 percent), Cross Valley Canal (13 percent), Arvin-Edison Water Storage District (10 percent), Wheeler Ridge-Maricopa Water Storage District (1.7 percent), and West Kern Water District (0.4 percent).

Overall, arsenic, chromium (total and hexavalent), nitrate, and sulfate, consistently increased in the aqueduct, although their respective drinking water maximum contaminant levels were not exceeded. The greatest increases occurred during the last few months of the year and were principally attributable to Semitropic Water Storage District's elevated concentrations and large inflow volumes. Dissolved organic carbon declined in the aqueduct during most months. This was a benefit for SWP water contractors because it reduces the cost of treating SWP water for drinking purposes and reduces the potential for exceeding trihalomethane regulatory limits. For bromide, chloride, nitrate, and total dissolved solids, increases or decreases depended on factors such as month, location, and sometimes relative inflow. The changes in concentration of these parameters in the aqueduct were, in many cases, within the range of natural seasonal variation occurring upstream. Additional information and analysis will be in the upcoming report, *Water Quality Assessment of Non-Project Turn-ins to the California Aqueduct, 2013*.

## San Joaquin Valley Agricultural Water Quality Programs

There are a number of programs that conduct or support monitoring, research, training, or demonstration projects related to San Joaquin Valley agricultural water quality. For information about these programs, see Chapter 5, Local Assistance.

## Municipal Water Quality Program Branch

The Sacramento-San Joaquin Delta provides drinking water for more than 25 million people in California. The Division of Environmental Services, Municipal Water Quality Program (MWQP) is responsible for evaluating the suitability of Delta water as a drinking water source, identifying sources of water quality degradation, and ensuring water quality data meet quality assurance and quality control objectives.

The mission of the Municipal Water Quality Investigations (MWQI) Program is to:

- support the effective and efficient use of the SWP as a source water supply used for municipal purposes through monitoring, forecasting, and reporting SWP water quality;
- provide early warning of changing conditions in source water quality used for municipal purposes;
- provide data and knowledge-based support for operational decision-making on the SWP;
- conduct scientific studies of importance to drinking water; and
- provide scientific support to DWR, the State Water Project Contractors Authority-MWQI Specific Project Committee, and other interested parties.

## Real Time Data and Forecasting Comprehensive Program

The Real Time Data Forecasting Comprehensive Program (RTDF-CP) has become a central element of the MWQP. The goal of the program is to further develop the capability of real-time data collection and to forecast short- and long-term source drinking water quality conditions in the Delta and SWP. Within the MWQP, the RTDF-CP entails the following elements:

- real-time monitoring at key locations, providing stakeholders and interested parties with timely data;
- field operations that ensure proper operation of all automated sampling equipment;
- consistent modeling with continuous updates providing the best forecasts possible;
- quality assurance/quality control of the instruments and data; and
- centralized information management and dissemination.

The real-time monitoring network includes stations located at Banks Pumping Plant, Jones Pumping Plant, the Sacramento River at Hood, the San Joaquin River near Vernalis (McCune Station), and at the newly constructed station at Gianelli Pumping-Generating Plant at San Luis Reservoir.

## Quality Assurance/Quality Control Program

The Quality Assurance/Quality Control Program (QA/QC) was established in 1992 to ensure that data generated by DWR's environmental monitoring programs meet high quality standards and are scientifically defensible. This is accomplished by encouraging monitoring programs to follow standardized procedures including quality control measurements in their sampling protocols.

The program performs the following functions:

- publishes quality assurance/quality control guidance documents;
- develops and maintains the drinking water quality database and associated quality control metadata of the DWR Water Data Library; and
- assists with developing quality assurance project plans.

QA/QC, with assistance from the University of California, Davis Extension, organized and presented a class titled "Introduction to Environmental Statistics" on August 14–16, 2013.

In 2013, QA/QC staff performed quality review and data entry of remnant historical hardcopy water quality data from the Division of Operations and Maintenance into DWR's Water Data Library database. These data will be shared in the U.S. Environmental Protection Agency's nationwide Environmental Information Exchange Network.

Also in 2013, QA/QC staff assisted various environmental monitoring programs in developing quality assurance documents. These included quality assurance project plans for monitoring pathogens and emerging chemical constituents of concern from the Sacramento Regional Wastewater Treatment Plant and the Stockton Regional Wastewater Control Facility. These are the largest wastewater treatment plants in the Sacramento and San Joaquin river watersheds, respectively, and their effluents can potentially impact water quality in the South Delta where SWP facilities are located.

## Water Quality Special Studies

Special studies are conducted to investigate the origins, fate, transport, and in some cases loads of current and emerging contaminants of concern. Such studies help

determine where new instruments should be located. Special studies can also be used to:

- investigate seasonal patterns and trends of constituents or examine circulation patterns of contaminants;
- refine modeling assumptions; and
- assess the impacts of increasing urbanization on levels of water quality constituents of concern.

MWQI engages in special studies that focus on specific aspects of source waters, contaminant loading, measurement methods and instrumentation, and climate and hydrology. The following studies were in progress during the 2013 calendar year:

- Urban Sources and Loads Investigation of Lathrop, California;
- investigation of O'Neill Forebay water circulation;
- spectrofluorometer study;
- feasibility study for a portable water quality monitoring station;
- nutrient budget of the SWP;
- in-situ fluorometer measurements of dissolved organic matter; and
- MWQI Program Summary Report.

## Accomplishments for the 2012–2013 MWQI Work Plan

During the 2012–2013 work plan cycle, the MWQI accomplished the following goals:

- completed installing a water quality station at the Gianelli Pumping-Generating Plant;
- updated MWQP's 5-year strategic plan;
- completed short-term Sacramento Watershed Analysis Risk Management Framework monitoring;
- installed a Metrohm anion analyzer at the Gianelli water quality station;
- installed new replacement water quality monitoring equipment at the continuous

real-time water quality monitoring stations;

- commenced calibration and reporting limit studies on the new replacement water quality monitoring equipment;
- initialized version 2 of the Field Station Real Time Monitoring Standard Operating Procedures;
- completed the investigation of longitudinal dispersion rate and travel time of constituents in the SWP; and
- produced several projects to develop data for historical conditions for the Delta and Aqueduct models (DSM2 and DSM2 Aqueduct Extension Model of the SWP), as well as for the Watershed Analysis Risk Management Framework model development.

The special study reports and other MWQP publications can be found on DWR's website.

## Bryte Chemical Laboratory

Established in 1951, Bryte Chemical Laboratory is DWR's primary analytical laboratory. Its main function is to analyze drinking, surface, waste, and groundwater for the various water quality programs within DWR. Since 1990, the laboratory has been certified biennially by the SWRCB's Environmental Laboratory Accreditation Program to perform water quality analyses following U.S. Environmental Protection Agency or American Water Works Association procedures and analytical methods. This certification allows the laboratory to perform analyses that generate legally defensible data that can be used for regulatory or compliance purposes. The laboratory continues to perform the majority of chemical and other related analyses required to support DWR's water quality programs. Each year, thousands of water samples are routinely analyzed for inorganic and organic constituents such as standard minerals, cations, anions, nutrients, metals, chlorophyll, pesticides, herbicides, and volatile organic compounds.

In 2013, the laboratory upgraded its capability and capacity to detect and analyze alkalinity, conductivity, and pH with the purchase of a Metrohm 855 Autotitrator. It is a fully automated and computer-controlled instrument equipped with a 102-position autosampler and multiprobe detectors that generate data that are highly stable, accurate, and reproducible. The instrument's detection limit has been established at 1 part per million.

The laboratory has continued to manage a variety of analytical contracts with other State agencies and several outside laboratories in accordance with the master contract policy approved in fiscal year 1994–1995. These contracts are used to perform analyses that are beyond the capability and capacity of the laboratory, such as solids and fish tissues. On July 1, 2013, the California DFW was awarded the contract for water, fish tissue, and sediment analysis worth \$750,000 for 3 years.

SWP security and protection has continued to be a primary goal for DWR since September 11, 2001. To help protect the SWP from biochemical and chemical agents, the laboratory continues to be an active member in a group of laboratories called the California Association of Mutual Aid Laboratories Network (CAMAL Net) headed by CDPH. The laboratory network's main objective is to voluntarily assist CDPH in the analysis of chemical agents in water quality samples should a natural disaster or biochemical or chemical event occur in California. The assistance is only required should the analytical capacity of CDPH be exceeded or to confirm the presence or absence of chemical agents in water quality samples provided by CDPH. In 2007, Bryte Chemical Laboratory was classified as a Level II participating laboratory in the CAMAL Net organization. Level II only allows the laboratory to receive samples that are prescreened and determined nonhazardous to laboratory personnel.

## Suisun Marsh Program Activities

Suisun Marsh consists of approximately 59,000 acres of tidal and managed brackish water wetlands and 30,000 acres of bays and sloughs. It is the largest contiguous brackish marsh remaining in the United States.

Situated in southern Solano County, west of the Sacramento-San Joaquin Delta and north of Suisun Bay, the marsh encompasses more than 10 percent of California's remaining natural wetlands. The marsh is the resting and feeding ground for thousands of waterfowl and shorebirds migrating on the Pacific Flyway. It provides important habitat for more than 221 bird species, 45 mammal species, 16 reptile and amphibian species, and more than 40 fish species.

DWR became involved in the Suisun Marsh in response to SWRCB Water Right Decision 1485, which required mitigation for effects of the SWP and CVP. The 1984 *Plan of Protection for Suisun Marsh*, completed by DWR, included construction of a series of facilities to distribute lower salinity water to managed wetlands and monitoring in relation to these facilities. Today, DWR operates and maintains these water management facilities, including the Roaring River Slough Distribution System (RRSDS), Morrow Island Distribution System (MIDS), Goodyear Slough Outfall, and the Suisun Marsh Salinity Control Gates (SMSCG). Figure 4-3 shows the water quality compliance and monitoring sampling locations and the water management facilities.

Through agreements and plans, DWR has been working in coordination with Reclamation, DFW, Suisun Resource Conservation District (SRCD), USFWS, and other agencies on habitat management, preservation, and restoration of the Suisun Marsh.

## Revised Suisun Marsh Preservation Agreement

In 1987, DWR, Reclamation, DFW, and SRCD signed the *Suisun Marsh Preservation Agreement* (SMPA). It required Reclamation and DWR to meet salinity standards as specified in the then-current SWRCB Water Right Decision 1485, set a timeline for implementing the *Plan of Protection for the Suisun Marsh*, and delineated monitoring and mitigation requirements. A revised SMPA and *Revised Mitigation and Monitoring Agreement* were signed in 2005 to make channel water salinity requirements consistent with D-1641. These included management activities in lieu of western marsh facilities proposed in the plan of protection.

The revised SMPA included the following actions: operate facilities in order to meet channel water salinity standards consistent with D-1641; implement a Water Manager Program; provide portable pumps; update Individual Ownership Adaptive Management Habitat Plans; establish a Drought Response Fund; and replace turnouts on the RRSDS. The monitoring agreement included monitoring for fish, Salt Marsh Harvest Mouse (*Reithrodontomys raviventris*), Ridgway's Rail (*Rallus obsoletus*; formerly known as the California Clapper Rail), vegetation, and other biological monitoring.

During 2013, DWR, DFW, Reclamation, and SRCD continued to implement these activities. Negotiations continued for updating the revised SMPA to include the remaining mitigation obligations.

## Facility Operations, Maintenance, and Related Activities

### Morrow Island Distribution System

MIDS is an interior ditch bordered by levees that was created to distribute water to managed wetlands. Water with relatively lower salinity is taken from Goodyear Slough

in the west through water control structures that transport the water into MIDS. Water is then distributed to managed wetlands through private landowner water control structures along the ditch. Water not used by the landowners exits into Grizzly Bay through water control structures in the east.

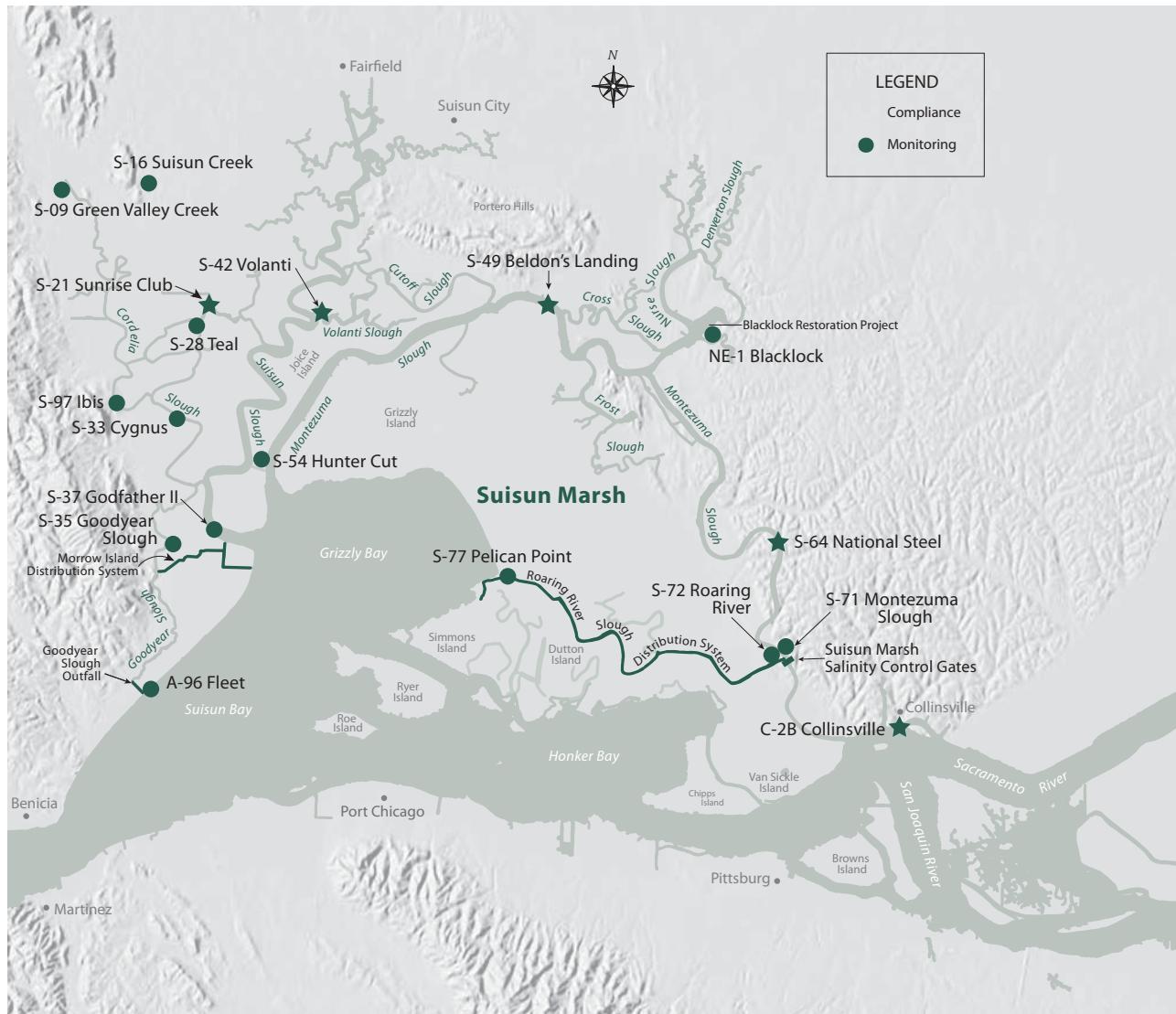
**Fish Screen and Alternatives.** Based on previous study results, a fish screen at MIDS would likely have negligible benefits to sensitive fish populations (see Bulletin 132-07, Chapter 4, Water Quality). DWR and Reclamation are proposing to fulfill the outstanding terms and conditions of the USFWS 1997 BiOp for the MIDS maintenance project by acquiring and protecting, in perpetuity, aquatic habitat in Suisun Marsh. (For additional information about the BiOp, see Bulletin 132-08.) The status of this proposal remains on-going without new notable developments or changes.

**Longfin Smelt Incidental Take Permit.** On February 23, 2009, DFW issued an incidental take permit for the on-going and long-term operation of existing SWP facilities in the Sacramento-San Joaquin Delta for the protection of Longfin Smelt. MIDS is included as one of these facilities.

To minimize the take of Longfin Smelt at the MIDS diversion, DFW specifies the average intake velocities each year to adequately protect these fish.

Also, as a requirement of the incidental take permit, DWR is developing a study to confirm that the aforementioned operation prevents or substantially reduces the entrainment of Longfin Smelt at MIDS.

**Morrow Lane Bridge Repair.** In July 2012, the Division of Engineering inspected the Morrow Lane Bridge over Goodyear Slough and found the bridge was severely deteriorated. As a result, access and maintenance of MIDS was suspended.



**Figure 4-3 Compliance and Monitoring Stations and Water Management Facilities in the Suisun Marsh**

During 2013, DWR worked with a landowner and consultant to determine how to proceed with bridge repairs. The landowner decided to address the deficiency in two phases. The first was a repair to extend the life of the bridge 1 to 2 years, and the second is a full replacement of the bridge (in fiscal year 2014–2015).

Structural repairs were made to the bridge in summer 2013. The Division of Engineering inspected the installed interim strengthening measures designed by the

consultant and determined that the bridge could safely support vehicles with loads up to 18,000 pounds per axle, allowing DWR staff access to MIDS for maintenance. Additionally, the Division of Engineering recommended that the bridge be inspected every 6 months to ensure the safety of DWR personnel.

### Suisun Marsh Salinity Control Gates

The SMSCG are operated as needed to meet salinity standards. When they are not in operation, they are placed in an open

position to minimize fish concerns related to predation and impedance. Installation or removal of the flashboards and operation of the gates vary depending on salinity conditions, fisheries agencies' requests for sensitive species concerns, or repairs.

**Status of SMSCG in 2012–2013.** The control season (October 2012 through May 2013) began with the installation of the flashboards on October 9, 2012. The SMSCG were tidally operated between October 12 and November 27, 2012, due to salinity concerns in the marsh. The boat lock was partially closed during the control season due to safety concerns. The National Marine Fisheries Service was briefed about the safety concerns and agreed to assess options with DWR to balance fish and safety needs. On start-up on October 12, all three gates started operating remotely. After operating for 46 days, salinity decreased and gate operations were suspended on November 25, 2012. Salinity levels increased due to dry conditions in May, and radial gate operation began on May 2, 2013. On start-up, only two gates were operational; the third gate malfunctioned and was kept in the open position until it became operational on May 10. Gate operations lowered salinity sufficiently, and as a result, operations stopped on May 21. The flashboards were removed and the boat locks were closed on May 30, 2013.

### **Other Facility Operation and Maintenance**

The RRSDS and Goodyear Slough Outfall are operated and maintained as needed to provide lower salinity water to managed wetland properties. RRSDS 2013 maintenance activities included clearing the existing ditch at the southern end, replacing riprap on the interior ditch, levee repair and coring, road maintenance and grading, debris removal, and vegetation management. Goodyear Slough Outfall 2013 maintenance activities included debris removal from pipes and trash racks and vegetation management.

### **Water Quality and Compliance**

Salinity levels for the 2012–2013 control season were below monthly standards for all five compliance stations.

Details about salinity levels in the marsh are available in the monthly report entitled *Suisun Marsh Monitoring Program Channel Water Salinity Report* available on DWR's website.

### **Blacklock Restoration Project**

DWR received CALFED Ecosystem Restoration Program grant funds in 2001 to acquire the 70-acre Blacklock property in December 2003. DWR, in cooperation with Reclamation, DFW, USFWS, and SRCD, implemented the Blacklock Restoration Project (location shown on Figure 4-3). This project restored diked, managed wetlands to tidal wetlands. Although a natural breach in the levee occurred in July 2006, it was determined that the planned breach should still be constructed to allow for full tidal flow and optimum sediment transportation. The planned breach construction occurred on October 3 and 4, 2006.

The project goals and objectives are to:

- restore the area to a fully functioning, self-sustaining marsh ecosystem created through restoration of natural hydrologic, sedimentation, and biological processes;
- increase the area and contiguity of emergent wetlands providing habitat for tidal marsh species; and
- assist in the recovery of at-risk species.

The final restoration plan for the project was published in June 2007.

In 2013, DWR continued implementing the 10-year monitoring program at the Blacklock site. Monitoring is performed in cooperation with State and federal agencies. There are 15 parameters being monitored, including sediment accretion, channel network

evolution, vegetation development, water quality, methylmercury concentrations, and avian use.

In 2013, Wetlands and Water Resources, Inc. worked on the monitoring report for years one through five. The report is being finalized by DWR staff and is expected to be completed in early 2015.

For more information about the Blacklock Restoration Project, visit the Suisun Marsh Program webpage on DWR's website.

## **Suisun Marsh Habitat Management, Preservation, and Restoration Plan**

The *Suisun Marsh Habitat Management, Preservation, and Restoration Plan*, referred to as the Suisun Marsh Plan, was developed by the Principal Agencies (or Principals), a group of agencies with primary responsibility for Suisun Marsh management. The Suisun Marsh Plan is intended to balance the benefits of tidal wetland restoration with other habitat uses in the marsh by evaluating alternatives that provide a politically acceptable change in marshwide land uses, such as Salt Marsh Harvest Mouse habitat, managed wetlands public use, and upland habitat. It relies on the incorporation of existing science and information developed through adaptive management.

The Principals include USFWS, Reclamation, DFW, DWR, the National Marine Fisheries Service, and SRCD. The Principals have consulted with other participating agencies, such as the U.S. Army Corps of Engineers, the San Francisco Bay Conservation and Development Commission, the RWQCBs, and SWRCB, to develop this plan.

The Suisun Marsh Plan was published in May 2013.

Adaptive management is an important part of carrying out tidal restoration projects. In May 2013, an Adaptive Management

Advisory Team Charter was completed. It outlines the responsibility of the Suisun Marsh Plan agencies to encourage project proponents to carry out targeted studies to resolve uncertainties through monitoring, recommend adaptive management strategies, and share scientific information.

## **Suisun Marsh Expenditure History**

Suisun Marsh expenditures and reimbursements administered by DWR for calendar years 1968 through 2013 are summarized in Table 4-4. From 1968 through December 31, 2013, DWR disbursed more than \$150.6 million of SWP funds for planning, design, environmental documentation, construction, maintenance, monitoring, mitigation, and permit compliance in support of implementing the *Plan of Protection for the Suisun Marsh* through the SMPA and for meeting standards set by SWRCB. Reclamation has reimbursed DWR approximately \$54.7 million (36 percent), and the State's General Fund has reimbursed approximately \$9.5 million (6.3 percent). These figures do not include up-front payments made by Reclamation for staff and other direct costs, as well as approximately \$5.7 million in Reclamation interest payments during 1988 and 1989.

Annual figures are reported in Table 4-4 for DWR's up-front payments, Reclamation reimbursements, General Fund reimbursements, and DWR's cumulative expenditure balance.

**Table 4-4 Suisun Marsh Expenditures and Reimbursements Administered by DWR (in dollars),  
Calendar Years 1968–2013**

| Year<br>[1]  | Reach 305<br>Costs<br>[2] | General<br>Fund<br>Payment<br>[3] | Adjustment<br>for General<br>Fund<br>Payment <sup>a</sup><br>[4] | Reclamation<br>Invoice<br>Payment<br>[5] | Interest<br>Payment<br>Credited<br>Back to<br>Contractors<br>[6] | Net SWP<br>Costs<br>[2] through [6]<br>[7] | Recreation<br>Costs <sup>c</sup><br>[8] | SWP Water<br>Contractors'<br>Costs<br>[7] minus [8]<br>[9] |
|--------------|---------------------------|-----------------------------------|--|--|--|--|---|--|
| 1968         | 10,571                    |                                   |  |  |  | 10,571                                     | 359                                     | 10,212   |
| 1969         | 34,181                    |                                   |  |  |  | 34,181                                     | 1,162                                   | 33,019   |
| 1970         | 23,343                    |                                   |  |  |  | 23,343                                     | 794                                     | 22,549   |
| 1971         | 1,042                     |                                   |  |  |  | 1,042                                      | 35                                      | 1,007  |
| 1972         | 47                        |                                   |  |  |  | 47   | 2                                       | 45   |
| 1973         | 0                         |                                   |  |  |  | 0  | 0                                       | 0  |
| 1974         | 0                         |                                   |  |  |  | 0  | 0                                       | 0  |
| 1975         | 2,709                     |                                   |  |  |  | 2,709                                      | 92                                      | 2,617  |
| 1976         | 32,960                    |                                   |  |  |  | 32,960                                     | 1,121                                   | 31,839   |
| 1977         | 37,475                    |                                   |  |  |  | 37,475                                     | 1,274                                   | 36,201   |
| 1978         | 350,831                   |                                   |  |  |  | 350,831                                    | 11,928                                  | 338,903  |
| 1979         | 3,660,099                 |                                   |  |  |  | 3,660,099                                  | 124,618                                 | 3,535,481  |
| 1980         | 5,005,759                 |                                   |  |  |  | 5,005,759                                  | 170,772                                 | 4,834,987  |
| 1981         | 2,964,974                 |                                   |  |  |  | 2,964,974                                  | 101,311                                 | 2,863,663  |
| 1982         | 2,955,705                 |                                   | (2,500,000)  |  |  | 455,705                                    | 101,111                                 | 354,594  |
| 1983         | 2,754,094                 |                                   |  |  |  | 2,754,094                                  | 93,643                                  | 2,660,451  |
| 1984         | 2,418,344                 |                                   |  |  |  | 2,418,344                                  | 82,388                                  | 2,335,956  |
| 1985         | 2,332,773                 |                                   |  |  |  | 2,332,773                                  | 79,432                                  | 2,253,341  |
| 1986         | 6,495,322                 |                                   |  |  |  | 6,495,322                                  | 220,843                                 | 6,274,479  |
| 1987         | 13,600,701                |                                   |  |  |  | 13,600,701                                 | 462,424                                 | 13,138,277   |
| 1988         | 7,456,364                 |                                   |  | (17,368,725) <sup>b</sup>                | (2,039,752)  | (11,952,113)                               | 253,516                                 | (12,205,629)   |
| 1989         | 2,341,960                 | (9,478,000)                       | 6,634,600  | (1,219,691) <sup>b</sup>                 | (283,857)  | (2,004,988)                                | 79,643                                  | (2,084,631)  |
| 1990         | 3,030,010                 |                                   |  | (695,450)                                |  | 2,334,560                                  | 101,460                                 | 2,233,100  |
| 1991         | 6,223,042                 |                                   |  | (2,925,429)                              |  | 3,297,613                                  | 210,454                                 | 3,087,159  |
| 1992         | 2,737,259                 |                                   |  | (1,174,655)                              |  | 1,562,604                                  | 91,951                                  | 1,470,653  |
| 1993         | 2,979,255                 |                                   |  | (238,130)                                |  | 2,741,125                                  | 99,897                                  | 2,641,228  |
| 1994         | 3,192,213                 |                                   |  | (1,962,549)                              |  | 1,229,664                                  | 107,281                                 | 1,122,383  |
| 1995         | 2,721,978                 |                                   |  | (647,138)                                |  | 2,074,840                                  | 91,218                                  | 1,983,622  |
| 1996         | 3,391,678                 |                                   |  | (1,482,396)                              |  | 1,909,282                                  | 113,244                                 | 1,796,038  |
| 1997         | 3,634,267                 |                                   |  | (1,520,219)                              |  | 2,114,048                                  | 121,132                                 | 1,992,916  |
| 1998         | 5,342,834                 |                                   |  | (1,107,501)                              |  | 4,235,333                                  | 177,132                                 | 4,058,201  |
| 1999         | 8,867,742                 |                                   |  | (2,696,200)                              |  | 6,171,542                                  | 301,424                                 | 5,870,118  |
| 2000         | 2,857,534                 |                                   |  | (3,300,053)                              |  | (442,519)                                  | 98,145                                  | (540,665)  |
| 2001         | 2,621,301                 |                                   |  | (444,009)                                |  | 2,177,292                                  | 89,431                                  | 2,087,861  |
| 2002         | 3,752,486                 |                                   |  | (791,319)                                |  | 2,961,167                                  | 124,386                                 | 2,836,780  |
| 2003         | 3,258,583                 |                                   |  | (2,389,979)                              |  | 868,604                                    | 107,566                                 | 761,038  |
| 2004         | 2,874,629                 |                                   |  | (952,940)                                |  | 1,921,689                                  | 94,885                                  | 1,826,804  |
| 2005         | 3,940,875                 |                                   |  | (1,409,296)                              |  | 2,531,579                                  | 130,049                                 | 2,401,530  |
| 2006         | 5,789,380                 |                                   |  | (868,449)                                |  | 4,920,931                                  | 193,258                                 | 4,727,673  |
| 2007         | 4,088,694                 |                                   |  | (939,879)                                |  | 3,148,815                                  | 134,934                                 | 3,013,881  |
| 2008         | 3,810,705                 |                                   |  | (1,670,278)                              |  | 2,140,427                                  | 125,239                                 | 2,015,189  |
| 2009         | 4,638,636                 |                                   |  | (1,123,705)                              |  | 3,514,931                                  | 153,077                                 | 3,361,855  |
| 2010         | 2,800,303                 |                                   |  | (1,663,530)                              |  | 1,136,773                                  | 92,410                                  | 1,044,363  |
| 2011         | 3,706,742                 |                                   |  | (1,748,136)                              |  | 1,958,606                                  | 122,323                                 | 1,836,283  |
| 2012         | 6,311,949                 |                                   |  | (1,860,585)                              |  | 4,451,364                                  | 208,294                                 | 4,243,070  |
| 2013         | 5,506,303                 |                                   |  |  |  | 5,506,303                                  | 181,708                                 | 5,324,596  |
| <b>Total</b> | <b>150,557,652</b>        | <b>(9,478,000)</b>                | <b>6,634,600</b>   | <b>(54,700,241)</b>                      | <b>(2,323,609)</b>   | <b>90,690,402</b>                          | <b>5,057,366</b>                        | <b>85,633,036</b>  |

<sup>a</sup> Under Assembly Bill 1442, the General Fund paid 20 percent of the Suisun Marsh costs through June 1988, which totaled \$9,478,000. This payment included \$2,843,400, which represents 6.5 percent of the costs through June 1988 paid by the General Fund. This amount has reduced the costs billed to the SWP water contractors. The remaining \$6,634,600 received from the General Fund represents DWR's recreation project purpose share of 14 percent.

<sup>b</sup> Excludes interest payments made by Reclamation.

<sup>c</sup> Allocation factors for capital recreation costs have changed from 14 percent to 3.4 percent, and operations and maintenance recreation costs from 14 percent to 3.3 percent.



## **Chapter 5**

### **Local Assistance**

*Artichoke crops in San Luis Obispo County.*

## Significant Events in 2013

**T**he California Irrigation Management Information System (CIMIS) made significant improvements to data quality and availability in support of the Water Conservation Act of 2009 (Senate Bill [SB]X7 7), the Model Water Efficient Landscape Ordinance (MWELO).

Through the Integrated Regional Water Management (IRWM) Grant Program, the Department of Water Resources (DWR) awarded \$91.8 million in Stormwater Flood Management grants and \$4.7 million in Local Groundwater Assistance grants in 2013.

In October 2013, DWR released the draft report *Commercial, Industrial, and Institutional Task Force Water Use Best Management Practices*.

*Information in this chapter was contributed by the Division of Statewide Integrated Water Management, the Division of Environmental Services, and the Division of Integrated Regional Water Management.*

The Department of Water Resources (DWR) manages the Davis-Grunsky Act Program, water use efficiency, agricultural drainage, and Water Conservation Bond Law programs, and participates in several other programs that assist local agencies and benefit State Water Project (SWP) water contractors.

## Davis-Grunsky Act Program

The Davis-Grunsky Act, authorized in 1960 as part of the Burns-Porter Act, provides construction loans for local domestic water projects and agricultural water supply. It also provides grants for recreation and fish and wildlife enhancement. Additionally, loans and grants may be given to rehabilitate dams and reservoirs.

DWR's ongoing administration of Davis-Grunsky program loans and grants includes management and oversight of 32 recreation projects and contracts. Administration costs are recovered from revenues generated by repayment of Davis-Grunsky Act loans. Recreation grant contracts are being amended to reflect modification of DWR's fee oversight functions and actual construction of recreation facilities.

The Davis-Grunsky Act requires participating State agencies to operate and maintain the recreation projects, while DWR inspects the recreation facilities, monitors the recreation contracts, and maintains a list of the recreation projects.

## Water Use Efficiency

Activities of the Water Use and Efficiency Branch in the Division of Statewide Integrated Water Management include providing technical assistance to local agencies; managing water use efficiency financial assistance programs; managing the California Irrigation Management Information System (CIMIS); reviewing,

tracking, and reporting on urban and agricultural water management plans; and water recycling/desalination projects.

## California Irrigation Management Information System

CIMIS is a network of automated weather stations that collects weather data and transmits it to a central repository in Sacramento. After performing quality control and calculations, data are made available to the public for such diverse purposes as irrigation scheduling, resource planning, research, and modeling.

In 2013, DWR's CIMIS network collected data from 147 stations, with approximately 50 percent of the stations on the network belonging to local cooperators. The demand for CIMIS data has been increasing steadily since its establishment in 1982. The number of registered data users has grown from 661 in 1989, to more than 51,000 in 2013.

Approximately 2.5 million reports were generated from the database using the CIMIS website in 2013. Thousands of reports were also retrieved from the CIMIS File Transfer Protocol site and CIMIS web services. Users can register online, access archived data, download data files, and peruse content about the CIMIS program and other helpful metadata and information. A separate but concurrently operating database and web application is maintained for redundancy to protect the data.

CIMIS continued providing the spatially distributed reference evapotranspiration ( $ET_0$ ) data, known as Spatial CIMIS, and expanded its user base through outreach activities. Spatial CIMIS is produced by coupling remotely sensed data from the National Oceanic and Atmospheric Administration's Geostationary Operational Environmental Satellite with point measurements from CIMIS stations to estimate  $ET_0$  data at 2-kilometer grids.

In addition to increasing the number of its stations, CIMIS made significant improvements to data quality and availability in support of the Water Conservation Act of 2009 (Senate Bill [SB]X7 7) and the Model Water Efficient Landscape Ordinance. SBX7 7 requires all water suppliers to increase water use efficiency. It also requires, among other things, the development of agricultural water management plans and a 20 percent reduction in urban water consumption by the year 2020.

In 2013, significant progress was made on multiple projects initiated in 2010 to upgrade CIMIS hardware and software to accommodate the anticipated increase in demand for data. The Spatial CIMIS system was moved from the University of California, Davis to DWR, and will be integrated into the newly designed CIMIS website. When completed, these projects are expected to deliver higher-quality CIMIS data more frequently, using user-friendly features.

## Recycling and Water Desalination

The goal of the Division of Statewide Integrated Water Management's Recycling and Water Desalination Section is to improve water use efficiency by promoting increased use of nonconventional water sources—namely recycled water and desalinated brackish and ocean waters—through planning, technical, and financial assistance. As part of a balanced water portfolio, nonconventional water sources will help

meet existing and future water supply and environmental needs. The section's mission consists of increasing safe and beneficial use of recycled water, advancing energy-efficient treatment and desalination technologies, and encouraging economically and environmentally acceptable use of desalinated brackish and ocean waters.

In 2013, the Recycling and Water Desalination Section activities included the following:

- authoring two Resource Management Strategy chapters for the *California Water Plan Update 2013* on Municipal Recycled Water and Desalination (Brackish and Sea Water);
- contributing to various tasks specified in SBX7 7, including assessing how to determine reasonable 2020 and 2030 targets for statewide water recycling; assessing brackish groundwater desalination, infiltration and direct use of urban stormwater runoff; and providing water recycling information for the Commercial, Industrial, and Institutional Task Force on Water Use Best Management Practices;
- providing input to the State Water Resources Control Board's (SWRCB) desalination amendments to the *California Ocean Plan*,
- collaborating with WateReuse Foundation on its National Water Reuse Database,
- continuing to develop new knowledge on water recycling and desalination activities and projects in California;
- instituting desalination technology briefings;
- continuing to manage grant agreements for 17 of the original 48 desalination projects awarded in the first two cycles of the Proposition 50 desalination grant program (the active projects include: 10 research and development projects, 6 demonstration and pilot projects, and 1 construction project);

- continuing Round 3 of Proposition 50 desalination grant solicitation; and
- continuing to provide technical knowledge on water recycling and water desalination issues, including responses to questions from policymakers, regulators, State and local agencies, and the public about permitting issues; public health regulations; types, locations, and amounts of water reuse occurring; and desalinated water production and use.

## Proposition 50 Water Use Efficiency Grant Program

Proposition 50 has provided approximately \$105 million for the Water Use Efficiency Grant Program since 2005. The grant program provided funds for implementation of all urban best management practices and agricultural efficient water management practices that would result in local, regional, and statewide benefits. The State benefits are water conservation, flow and timing, water quality, and energy efficiency, among others.

A competitive proposal solicitation package (PSP) was developed for all grant cycles, along with a comprehensive review and evaluation of the project proposals. The PSP defined project benefits, eligible projects, eligible applicants, funding caps, reporting, and other contract requirements.

In November 2012, DWR received 54 proposals in response to the October 2012 Proposition 50 Agricultural Water Use Efficiency PSP. Approximately \$23.9 million in grant funding was requested for proposed projects totaling more than \$42.5 million. DWR has approximately \$15 million available for this solicitation. The 54 applications received included 14 proposals for implementation projects and 40 applications for nonimplementation projects, of which 21 proposals were for research and development, feasibility studies, pilot projects, and demonstrations; 16 proposals were for training, education, and outreach;

and 3 proposals were Agricultural Water Management Plan (AWMP) preparation.

In 2013, DWR convened independent panels to review and rank the grant applications. The review process resulted in awarding the available \$15 million to support 39 water use efficiency projects statewide. The 39 awarded grants included: 11 implementation projects that result in water savings, increased instream flow, increased water quality, and increased energy efficiency for about \$10 million with a local cost-share of \$13 million; and 28 technical assistance, planning, feasibility study, research and development, training, education, public outreach, and/or pilot projects for about \$5 million with a local cost-share of \$1.5 million.

The total anticipated water savings resulting from the 11 implementation projects funded in 2013 amount to about 19,000 acre-feet (af) per year. The total anticipated water savings resulting from water use efficiency projects funded in previous grant cycles amount to about 190,000 af per year.

In addition to starting the development of grant agreements for the 39 newly awarded grants in 2013, the Water Use Efficiency Grant Program continued managing close to 150 grant agreements from previous proposal solicitations.

## Agricultural Water Management Plans

SBX7 7, the Water Conservation Act of 2009 requires all water suppliers to increase water use efficiency. Agricultural water suppliers are responsible for preparing, implementing, and updating AWMPs, measuring the volume of water delivered to customers, adopting a pricing structure, and implementing efficient water management practices. Agricultural water suppliers who fail to meet the specified water management planning requirements are not eligible for water grants or loans awarded or administered by the State.

SBX7 7 established the Agricultural Water Management Planning Act (California Water Code [CWC] Section 10800, et seq.) requiring an agricultural water supplier to prepare and adopt an AWMP on or before December 31, 2012. The agricultural water supplier is required to update its AWMP on December 31, 2015, and every 5 years thereafter.

“Agricultural water supplier” is defined as a publicly or privately owned water supplier that provides water to 10,000 or more irrigated acres, excluding acreage that receives recycled water. An agricultural water supplier is a supplier of or contractor for water that distributes or sells water for resale. Every water supplier that becomes an agricultural water supplier after December 31, 2012, and provides water to 25,000 or more irrigated acres, excluding recycled water, is responsible for preparing and adopting an AWMP within one year of becoming an agricultural water supplier. Agricultural water suppliers that provide water to less than 25,000 irrigated acres, excluding recycled water, are not required to adopt and implement an AWMP unless sufficient funding has specifically been provided for that purpose.

In October 2012, DWR released the *Agricultural Water Management Plan Guidebook*. The guidebook is meant to help increase agricultural water suppliers’ understanding of the SBX7 7 requirements and assist them in developing their AWMPs. The guidebook also provides information on how agricultural water suppliers may meet the requirements of the agricultural water measurement regulation and associated compliance documentation, as well as the aggregated farm-gate delivery reporting format. The guidebook is available online at DWR’s website.

DWR received 29 AWMPs between December 2012 and September 2013, including 15 SBX7 7 plans, 2 Agricultural

Water Management Council plans, 11 Bureau of Reclamation (Reclamation) Central Valley Project Improvement Act plans, and one Quantification Settlement Agreement (QSA) plan. The 29 submitted plans represented 38 agricultural water suppliers, as one of the plans is a regional plan for 10 water suppliers. All of the agricultural water suppliers that submitted plans have met the general requirements for such plans in the CWC. Plans for 2012 are anticipated to be submitted into 2014, and current numbers are available on DWR’s Water Use Efficiency website.

### ***Agricultural Water Measurement Regulation***

SBX7 7 identified two critical, efficient management practices that agricultural water suppliers are required to implement: measuring the volume of water delivered to customers with sufficient accuracy to comply with CWC Section 531.10(a), and adopting a pricing structure based at least in part on the quantity delivered. It also specified numerous additional efficient management practices for agricultural water suppliers to consider for implementation.

SBX7 7 requires DWR to adopt regulations that specify options for agricultural water suppliers to comply with the water measurement requirement in CWC Section 10608.48(b)(1). The regulations apply to agricultural water suppliers providing water to 25,000 irrigated acres or more. Suppliers providing water to 10,000 or more irrigated acres, but less than 25,000 irrigated acres, are also subject to these regulations, if sufficient funding is provided for that purpose as stated in CWC Section 10853. Agricultural water suppliers that are subject to the regulations must measure the volume of water pursuant to the accuracy standards defined in the regulations and submit that data in the annual report (required by CWC Section 531.10[a]) summarizing aggregated farm-gate delivery data.

As authorized by SBX7 7, DWR adopted an emergency agricultural water measurement regulation through the emergency rulemaking process, that was approved by the Office of Administrative Law and became immediately effective in July 2011. DWR then began the rulemaking process for adopting a permanent agricultural water measurement regulation.

On July 11, 2012, the Office of Administrative Law approved the permanent Agricultural Water Measurement regulation (Title 23, Division 2, Chapter 5.1, Sections 597–597.4 of the California Code of Regulations). The regulation was effective July 11, 2012.

Basically, the regulation allows an agricultural water supplier to choose any applicable single measurement option or combination of options in Section 597.3(a) or (b), and measurement device accuracy and operation has to be certified, tested, inspected and/or analyzed, documented, and reported as described in Section 597.4.

The annual aggregated farm-gate delivery form (required by Assembly Bill 1404 [2007]), CWC Section 531.10) was incorporated into this regulation by reference. All agricultural water suppliers serving more than 2,000 acres of agricultural land or providing 2,000 af of surface water annually for agricultural purposes are required, per AB 1404, to submit to DWR monthly or bimonthly aggregated farm-gate deliveries each year. Large agricultural water suppliers, serving more than 25,000 acres or 10,000–25,000 acres if funding is provided and the acreage is outside the 2003 Colorado River QSA, are also subject to SBX7 7. When measuring farm-gate deliveries, suppliers subject to AB 1404 must measure using best professional practices; whereas suppliers subject to SBX7 7 must use the criteria and accuracy standards in the Agricultural Water Measurement regulation.

AB 1404 broadly defines “best professional practices” to mean practices attaining and maintaining accuracy of measurement and reporting devices and methods (CWC Section 531(d)). In contrast to the preceding AB 1404 general definition, the Agricultural Water Measurement regulation specifies numerical accuracy standards for water measurement devices and requires accuracy certification, reporting, record retention, and specific protocols for device testing and inspection.

## Urban Water Management Plans

California urban water suppliers are required to adopt and submit urban water management plans (UWMPs) to DWR every 5 years.

In 2013, DWR continued the review of UWMPs submitted for the 2010 cycle. During 2013, 102 plans were reviewed.

DWR also collected the information reported in UWMPs into a database and provides reports on urban water use data to the governor, legislators, the media, interested members of the public, and others. In 2013, DWR began posting these reports online.

## 20 Percent Urban Water Use Reduction by 2020

SBX7 7, directs DWR to be the lead agency in implementing a number of separate actions that would guide the State to a targeted reduction of 20 percent of urban water use by 2020.

To implement these actions through a public process, DWR convened and continues to work with an Urban Stakeholder Committee to provide guidance and input.

Many of these actions required the development of methodologies, for use by urban water agencies, to calculate agency level targets and progress toward meeting their water use reduction targets by 2020.

In 2011, DWR published *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use*.

The reporting of agencies' targets and their progress in meeting targets is made in the UWMPs and reviewed by DWR. As part of the review of 102 UWMPs in 2013, DWR reviewed the methodologies used for setting urban water use targets for compliance.

Another required action from this legislation directed DWR, in conjunction with the California Urban Water Conservation Council, to convene a task force to develop alternative best management practices for the commercial, industrial, and institutional sector. The task force convened in 2011, and in October 2013, DWR released the draft report *Commercial, Industrial, and Institutional Task Force Water Use Best Management Practices*.

The legislation also requires DWR to report to the Legislature by the end of 2016 and make recommendations on needed changes if the State is not on track to meet per capita targets. Data analysis is ongoing in preparation for this report.

### **Assembly Bill 1420 Compliance**

AB 1420 (Chapter 628, Statutes of 2007) amended the Urban Water Management Planning Act (CWC Section 10610 et seq.) and was effective January 1, 2009. AB 1420 requires that any water management grant or loan made to an urban water supplier and awarded or administered by DWR, the SWRCB, or the California Bay-Delta Authority be conditioned on the implementation of the water demand management measures described in the UWMP, as determined by DWR.

AB 1420 requires DWR to consult with the SWRCB and the California Bay-Delta Authority in the development of eligibility requirements that consider the California

Urban Water Conservation Council's best management practices and alternative approaches that provide equal or greater water savings. In 2009, AB 1420 compliance criteria were released. (The Delta Stewardship Council is the successor to the California Bay-Delta Authority and assumes all of its administrative rights, abilities, obligations, and duties.)

### **Agricultural Drainage Program**

The Agricultural Drainage Program's mission is to seek in-valley solutions to surface and subsurface agricultural drainage water problems, particularly in the San Joaquin Valley, and to improve water quality in the San Joaquin River. This will be accomplished by promoting newer technologies and management practices that can reduce or eliminate off-site discharge of saline water.

This program consists of several activities, including drainage monitoring and evaluation, drainage treatment, integrated on-farm drainage management, drainage reduction and reuse, environmental services, and the San Joaquin River Water Quality Improvement Program.

In 2013, the following activities were conducted:

- monitoring shallow groundwater levels and flows, and collecting water quality data for drainage water from west side San Joaquin Valley tile drain sumps;
- measuring groundwater levels quarterly for approximately 200 wells in Kern County;
- preparing shallow groundwater and irrigation methods maps of drainage-impaired areas for 2011 using drainage monitoring data in conjunction with land use and irrigation methods data;

- collecting flow, electrical conductivity, and temperature data from several satellite-linked and web-accessible stations on the mainstem of the San Joaquin River for the Real-time Water Quality Monitoring Program (RTWQMP);
- producing biweekly forecasts of salinity and flow conditions on the San Joaquin River near Vernalis and other upstream stations using the San Joaquin River Input-Output Day model. Forecasts are published on DWR's website;
- collaborating with the Central Valley Regional Water Quality Control Board and State Water Resources Control Board's initiative, the Central Valley Salinity Alternatives for Long-term Sustainability by providing data, attending committee meetings and reviewing program documents; and
- maintaining a DWR website that includes information on drainage programs and activities, salinity and shallow groundwater maps, grants, and links related to other agricultural drainage programs.

The Agricultural Drainage Program is divided into two major activities: management of Proposition 204 (the Drainage Management Subaccount) and the San Joaquin Valley Agricultural Drainage Program.

## Proposition 204 (Drainage Management Subaccount)

In 1996, Proposition 204, The Safe, Clean, Reliable Water Supply Act, authorized the transfer of approximately \$6.1 million from the SWRCB to the California Department of Food and Agriculture. In 1997, the California Department of Food and Agriculture, SWRCB, and DWR signed a memorandum of understanding that established a process for utilizing the funds designated for agricultural drainage water management activities. In 1999, the California Department of Food and Agriculture and DWR signed an interagency agreement to transfer the funds to DWR for developing and

implementing programs consistent with CWC Section 78645, as outlined in the memorandum of understanding. The program's goal is to develop methods of using and concentrating salts and reducing trace element contaminants in the State's subsurface agricultural drainage water.

In 2013, the following final contract reports were submitted:

- *Production and Evaluation of Biofuel From Canola and Mustard Irrigated With Agricultural Water on The Westside of Central California;*
- *Selenium Incorporation in "Jose" Tall Wheatgrass and Bio-availability for Dairy Cattle; and*
- *Evaluation of Chemically-Enhanced Seeded Precipitation of RO Concentrate for High Recovery Desalting of High Salinity Brackish Water.*

These reports are available online at DWR's website.

## Proposition 204 Bond Funds

When bond funds are available, DWR solicits proposals from public entities seeking funding for Proposition 204 eligible activities. A technical review committee screens the proposals. DWR submits the proposal packages to an oversight committee comprised of representatives from DWR, the California Department of Food and Agriculture, and the SWRCB for final approval. Ultimately, DWR is responsible for preparing and managing contracts for the approved proposals.

In 2013, DWR initiated the latest round of grant funding under Proposition 204. A draft PSP was developed and posted on the Agricultural Drainage website for review. Two public workshops were held to explain the content of the PSP and to accept comments. The comments were compiled and reviewed, and responses were prepared to clarify the PSP process. A final PSP is being drafted for 2014.

## San Joaquin Valley Agricultural Drainage Program

This program consists of several activities, including drainage monitoring and evaluation, drainage treatment, integrated on-farm drainage management, drainage reduction and reuse, environmental services, and the San Joaquin River Water Quality Improvement Program.

### Drainage Monitoring and Evaluation

Drainage monitoring and evaluation provides information on the quality, quantity, and movement of drainage water. In 2013, the following activities were conducted:

- monitoring shallow groundwater levels and flows, and collecting water quality data for drainage water from west side San Joaquin Valley tile drain sumps;
- measuring groundwater levels quarterly for approximately 200 wells in Kern County;
- preparing shallow groundwater and irrigation methods maps of drainage-impaired areas for 2011 using drainage monitoring data in conjunction with land use and irrigation methods data;
- providing assistance for the collection of groundwater, soil, and operational data for the integrated on-farm drainage management project at Red Rock Ranch (RRR) in western Fresno County; and
- maintaining a website that includes information on drainage programs and activities, salinity and shallow groundwater maps, Proposition 204 grants, and links related to other agricultural drainage programs.

### Drainage Treatment

**Development of Membrane Treatment of Agricultural Drainage Water.** DWR continues to fund research on the use of membrane treatment for desalting agricultural drainage water under a multiyear contract with the University of California, Los Angeles (UCLA).

One reverse osmosis desalination pilot study has been proposed and is currently under construction. The study involves cooperation with UCLA to test a nanofiltration unit coupled with a reverse osmosis unit. This unit will have proprietary sensors that allow the unit to monitor and modify online operating parameters based on changing conditions of the incoming drainage water. This trial will determine the operating efficiency of the unit in terms of the percent of recovery compared to the amount of time it takes for membrane fouling, and it will also determine the electrical and chemical costs of operating the unit.

Construction of this mobile treatment plant is scheduled to be completed in 2014, and initial studies will also be conducted in 2014. The first proposed site is located within the Panoche Drainage District's agricultural drainage water reuse area.

**Grassland Area Farmers—Compliance with Water Quality Control Plan.** DWR continues to participate in a multiagency cooperative effort with Grassland Area Farmers and Reclamation to comply with the objectives of the Central Valley Regional Water Quality Control Board's *Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin*. One of the key components of the plan is drainage water treatment.

The SWRCB approved the environmental impact report/environmental impact statement for the continuation of the *Grassland Bypass Project, 2010–2019*. The proposed actions are to:

- extend the San Luis Drain Use Agreement in order to allow the Grassland Basin Drainers time to acquire funds and develop feasible drain water treatment technology to meet revised Basin Plan objectives and waste discharge requirements by December 31, 2019;

- continue the separation of unusable agricultural drainage water discharged from the Grassland Drainage Area from wetland water supply conveyance channels for the period 2010–2019; and
- facilitate drainage management that maintains the viability of agriculture in the project area and promotes continuous improvement in water quality in the San Joaquin River.

#### **Ion Exchange Pretreatment Investigations.**

DWR continues to successfully operate a manually controlled ion-exchange system to “soften” agricultural drainage water, as needed. The small manually operated ion-exchange treatment system provided DWR with enough information to continue utilizing this treatment process on a larger scale. In late 2011, DWR solicited bids for a larger capacity automated ion-exchange system (10 gallons per minute) that would effectively remove hardness from agricultural drainage water. Producing “soft” drainage water reduces the need for cleaning or scale removal in other treatment technologies that DWR will test in the future. The future treatment technologies will consist of electrocoagulation, vapor compression distillation, and reverse osmosis. Another benefit of ion exchange is that the regenerate will be utilized as a dust-control product in the form of calcium chloride and magnesium chloride.

The ion-exchange system was installed in 2012 at the RRR study area. However, due to decreased quantities of agricultural drainage water as a result of drought conditions during 2012 and 2013, the system was not able to operate at capacity. DWR has preliminary plans to install a groundwater well to extract shallow brackish water that will supply adequate quantities of water for softening. The groundwater well will be considered once California Environmental Quality Act (CEQA) clearance has been granted at the RRR study area.

#### **Vapor Compression Distillation Investigation.**

A vapor compression distillation unit was installed and operated on a limited basis during 2012. During the treatment process, “softened” drainage water is evaporated, converted to steam, and then condensed, resulting in distilled water and concentrated brine. The unit is expected to achieve a flow rate of 21 gallons per minute, and the expected ratio of distilled water to brine will be 80 percent to 20 percent. In late 2013, DWR entered into an agreement with California State University, Fresno (CSUF) to assist in a study to evaluate the performance of the vapor compression distillation unit located at the RRR study area. When an adequate and consistent source of supply water can be maintained at the project site, DWR will collaborate with CSUF and make necessary repairs and improvements to the treatment unit. The preliminary investigation will determine the amount of energy required to operate the unit under differing flow ratios and total dissolved solids concentrations. The study is expected to be completed in 2014.

**Remote Sensing Hardware.** In March 2012, the remote sensing hardware installed on the wind turbine located at RRR began collecting and storing wind and energy production data for the 10 kilowatt wind turbine. DWR continued collecting and storing data in 2013. DWR plans to analyze the collected data in 2014 to determine the cost effectiveness of wind-generated electrical power on the west side of the San Joaquin Valley to supplement various treatment technologies at the RRR study area.

**Agricultural Subsurface Drainage–Salt Recovery, Purification, and Utilization.** DWR continues to support specific investigations of processes for concentrating and purifying drainage salts for marketing purposes. The current technology that DWR is investigating is an electrochemical process. This process is a carbon dioxide-negative method that produces usable agricultural chemicals

such as acids, bases, and carbonates as by-products. During 2013, a pilot plant was operated at the Tulare Lake Drainage District that showed promising results. Ongoing testing and development continued throughout 2013 and will continue into 2014.

### **Integrated On-Farm Drainage Management**

DWR's South Central Region Office's Integrated On-Farm Drainage Management (IFDM) became a permanent activity when the Integrated Drainage Management Section was created in 2001. Its objective is to provide technical assistance on IFDM systems through advisory, technical, and oversight committees. IFDM is a drainage management system based on sequential reuse of saline drainage water to irrigate crops of progressively increasing salt tolerance. Each sequential reuse reduces the volume of drainage water and increases the salt concentration. Drainage water too saline to irrigate crops is applied to solar evaporators, a management practice that SWRCB supports. The IFDM program funds, administers, and monitors contracts with State, federal, university, and local entities to learn more about IFDM systems. Findings indicate that IFDM systems have less significant environmental impacts than other options, and they reduce the volume of drainage water.

IFDM program staff also:

- coordinate IFDM research activities and data collection with other agencies;
- assist growers and local agencies to plan and develop IFDM systems;
- provide assistance to research projects for the development of crops, including research being performed at RRR by CSUF, to assess the suitability of various salt-tolerant forages and halophytes for, forage quality, productivity, water use, and the sequential reuse of drainage water;

- assist growers, water and drainage districts, and regional entities by providing information on salt-tolerant grasses and IFDM design specifications;
- assist the SWRCB to develop policies for the management of drainage water, salt, and selenium; and
- improve enhanced evaporation features of the pilot solar evaporator.

DWR is continuing research on *Prosopis alba*, an Argentine mesquite tree, in cooperation with the Forestry Research Station at Catholic University of Santiago del Estero in Argentina. *Prosopis alba*, which originated from the plantations of Catholic University of Santiago del Estero, is a highly salt-tolerant tree species that holds promise of ameliorating subsurface drainage problems in the soils of the western San Joaquin Valley. A number of trees were planted at several drainage-impaired locations within the west side of the San Joaquin Valley. DWR has partnered with the Westside Resource Conservation District to monitor the growth and performance of the trees. A group of trees with the best salt and boron tolerance qualities were selected for final testing and were planted at a test site on the west side of the San Joaquin Valley in 2010 for monitoring. This monitoring continued throughout 2012 and 2013. The growth indicates that some varieties of the initial salt-tolerant trees adapt very well to the saline conditions. Research into the feasibility of growing *Prosopis alba* trees in saline soils continued through 2013.

DWR continues to collect operational data from IFDM projects at RRR for performance analysis.

DWR and the Center for Irrigation Technology at CSUF, are worked together with the New Jerusalem Drainage District in western San Joaquin County on a study to develop an operation and management plan to manage water supplies more efficiently and reduce subsurface drainage water.

The main goal is for farmers to use their water supplies efficiently and minimize percolation losses into the local underground shallow water table. A primary goal of the New Jerusalem Drainage District is to eliminate the discharge of subsurface drainage water that collects in the underground water table into the San Joaquin River. A secondary goal is to meet its respective objectives without adversely impacting soil and water quality and crop productivity within the district. The combined goals result in a complex mix of irrigation and drainage management activities that need to be integrated into a single plan. The operation and management plan was completed at the end of 2013 and will be submitted to New Jerusalem Drainage District for review in 2014.

### ***Central Valley Salinity Management Program***

In 2006, the Central Valley Regional Water Quality Control Board and SWRCB initiated a comprehensive effort to address salinity problems in California's Central Valley and adopt long-term solutions that would lead to enhanced water quality and economic sustainability. The Central Valley Salinity Alternatives for Long-term Sustainability is an effort to develop and implement a comprehensive salinity management program. DWR is involved in the process by providing expertise in salinity management through participation in the committees and activities of the Central Valley Salinity Policy Group. This group provides guidance and technical support on specific issues through various committees (the Technical Advisory Committee, Social and Economic Impact Committee, and Public Education and Outreach Committee) and overall direction and management (the Executive Committee) for the development of a comprehensive Central Valley salinity management plan.

### ***Drainage Reduction and Reuse Program***

DWR's Drainage Reduction and Reuse Program offers technical assistance, information, and other resources to growers and irrigators for applying irrigation water efficiently to reduce both excessive deep percolation and drainage water from the immediate on-farm source, while maintaining salt balance in the root zone.

The program objective is achieved through continued on-farm demonstration projects, studies, research, training, and workshops on scheduling irrigation management, advances in irrigation technologies, evaluating irrigation systems, reusing drainage water, and managing salinity.

### ***Environmental Services***

DWR's South Central Region Office's Environmental Compliance Section investigates and reports on IFDM and other systems used for disposal and management of drainage water. Environmental activities include RRR research projects that involve biological monitoring activities required in accordance with waste discharge requirements permits. In 2013, the Environmental Compliance Section began the CEQA process for future studies to be performed at the RRR study area. CEQA compliance is expected to be completed in 2014.

### ***San Joaquin River Water Quality Improvement Program***

DWR's Agricultural Drainage Program, in collaboration with other agencies, continues to make significant efforts to improve water quality in the San Joaquin River to benefit the State and SWP water contractors. These efforts are intended to control salinity and selenium discharges upstream of Vernalis. They include promoting on-farm and regional water management activities to reduce subsurface drainage, real-time water quality management to maximize

the assimilative capacity of the San Joaquin River, and efforts to time wetlands discharges when there is assimilative capacity in the San Joaquin River.

Specific efforts include the West Side Regional Plan, Reclamation's San Luis Drainage Feature Reevaluation to provide drainage service to the San Luis Unit of the Central Valley Project, and the IFDM program maintained by DWR and collaborating agencies.

### On-farm and Regional Drainage Management Activities.

Agricultural Drainage Program staff continued working with the Grassland Area Farmers to help reduce subsurface agricultural drainage water discharges into the San Joaquin River. Drainage management activities involving source control and drainage reuse have proven effective in reducing salt loads in the San Joaquin River. Since the Grassland Area Farmers implemented the Grassland Bypass Project, drainage discharges have decreased from 58,000 af to less than 14,000 af, and salt loads have been reduced from 210,000 tons to about 57,000 tons. The reductions were possible due to the San Joaquin River Improvement Project, an important Grassland Bypass Project component, funded by DWR through Propositions 13 and 50. It consists of 6,000 acres of land dedicated for reuse of subsurface drainage water generated by Grassland Area Farmers to grow salt-tolerant crops. DWR continued to provide technical assistance to improve and develop this part of the Grassland Bypass Project.

### Real-time Water Quality Monitoring Program.

The RTWQMP collects flow, electrical conductivity, and temperature data from several satellite-linked and web-accessible stations on the mainstem of the San Joaquin River and its tributaries. The information provided can be used by San Joaquin River water managers and stakeholders to improve management and coordination of

east side reservoir releases and agricultural and wetland drainage flows to achieve water quality objectives at the San Joaquin River compliance points. In the early stages, RTWQMP was funded by Reclamation and then by CALFED. Currently, DWR has assumed responsibility for funding most of the RTWQMP.

Forecasting flow and salinity conditions on the San Joaquin River allows decision makers to take advantage of the assimilative capacity of the river when available. Data collected from the network of monitoring stations is used with the San Joaquin River Input-Output Day model to generate biweekly forecasts of salinity and flow conditions on the river near Vernalis and other upstream stations. DWR publishes the information weekly on its website.

The RTWQMP has been collaborating with Reclamation, the SWRCB, and the University of California, Merced, to develop and implement a replacement forecasting model. The Watershed Analysis Risk Management Framework model, which was partially funded by Proposition 204, is a more robust model that can provide more accurate modeling of salinity conditions in the San Joaquin River. It is anticipated that the Watershed Analysis Risk Management Framework model will replace the current model in 2014 or 2015.

## Water Conservation Bond Laws

To help local agencies obtain financing for their water management programs, California voters have approved eight bond laws between 1984 and 2006 authorizing DWR to provide grants and low-interest loans to fund project feasibility studies or construction activities. The bond laws are summarized below:

- The Clean Water Bond Law of 1984 (Proposition 25) authorized \$10.5 million for water conservation projects.

- The Water Conservation and Water Quality Bond Law of 1986 (Proposition 44) authorized \$75 million for water conservation and groundwater recharge projects.
- The Water Conservation Bond Law of 1988 (Proposition 82) authorized \$60 million for water conservation, groundwater recharge, and new local water supply improvements.
- The Safe, Clean, Reliable Water Supply Act (Proposition 204), approved in 1996, authorized \$55 million for water conservation, groundwater recharge, and local water supply projects.
- The Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act (Proposition 13), approved in 2000, authorized \$535 million for agricultural and urban water conservation, groundwater recharge, infrastructure rehabilitation, groundwater storage, and interim reliable water supply projects and studies.
- The Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002 (Proposition 50) authorized \$500 million for the IRWM Grant Program to be implemented jointly by DWR and the SWRCB.
- The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Protection Bond Act of 2006 (Proposition 84) authorized \$1 billion to continue the IRWM Grant Program. Under this program, grants and construction loans are available with repayment periods of up to 20 years at reduced interest rates for most programs.
- The Disaster Preparedness and Flood Prevention Bond Act of 2006 (Proposition 1E) authorized \$300 million for IRWM Stormwater Flood Management.

## Propositions 25, 44, 82, and 204

Funding is fully obligated for Propositions 25, 44, 82, and 204.

## Proposition 13

Agricultural water conservation loan funding is still available under Proposition 13.

All loan and grant funds for the Groundwater Recharge, Infrastructure Rehabilitation, Urban Water Conservation, Groundwater Storage, and Interim Reliable Water Supply programs have been obligated.

## Integrated Regional Water Management Grant Program

The IRWM Grant Program is funded by Propositions 50, 84, and 1E.

## Proposition 50

All Proposition 50 funds have been obligated.

## Propositions 84 and 1E

Proposition 84 Local Government Assistance grants provide local public agencies with up to \$250,000 to conduct groundwater studies or carry out groundwater monitoring and management activities. In 2013, \$4.7 million was awarded to 26 water districts and local public agencies.

In 2013, \$91.8 million was awarded in Proposition 1E Round 2 Stormwater Flood Management grants. Awards were made to 10 agencies to help fund \$238 million in projects across the State.





## Chapter 6

## Legislation and Litigation

*San Luis Reservoir.*

## Significant Events in 2013

*S*ignificant legislation related to funding for construction projects related to safe drinking water, State agency contracting, flood protection, and habitat and endangered species protection passed in 2013.

*Information for this chapter was provided by the Legislative Affairs Office and the Office of the Chief Counsel.*

The Department of Water Resources (DWR) monitors State and federal legislation that affects management of the State Water Project (SWP). Legislative bill tracking involves reviewing legislation at its introduction, evaluating amendments in State Assembly and Senate committee hearings, and monitoring its enactment into law. The DWR Assistant Director for Legislation monitors proposed legislation. The Office of the Chief Counsel tracks State and federal litigation that impacts management of the SWP. The DWR Chief Counsel also manages legal cases that involve SWP operations.

## Legislation

### State Legislation

#### ***AB 115 (Perea; Chapter 630, Statutes of 2013)—Safe Drinking Water State Revolving Fund***

Assembly Bill (AB) 115 expands the eligibility for grants from the Safe Drinking Water State Revolving Fund by allowing multiple agencies to collaborate and jointly submit grant applications when at least one of the communities served by the construction project will meet safe drinking water standards.

#### ***AB 118 (Committee on Environmental Safety and Toxic Materials; Chapter 631, Statutes of 2013)—Safe Drinking Water***

AB 118 authorizes a drinking water system serving a severely disadvantaged community to be eligible for a grant, instead of a loan, from the Safe Drinking Water State Revolving Fund. It would also allow the grant to cover the full cost of a project.

#### ***AB 906 (Pan; Chapter 744, Statutes of 2013)—Personal Services Contracts***

This bill restricts State agencies' use of personal services contracts, except when "a clear and imminent danger, requiring immediate action to prevent or mitigate the loss or impairment of life, health, property, or essential public services" is present. It specifically prohibits a State agency from

executing a contract until it has contacted all organizations that represent State employees who perform the type of work to be contracted.

#### ***AB 1259 (Olsen; Chapter 246, Statutes of 2013)—Sacramento-San Joaquin Valley***

AB 1259 clarifies the exceptions to an existing prohibition relating to the approval of development in areas subject to deep flooding—namely, the exception for situations where adequate "urban level" flood protection has been achieved. Existing law currently prohibits local governments from approving development in areas subject to deep flooding unless (1) the area is protected by adequate State and federal levees, (2) the construction of adequate flood protections is underway, or (3) building standards are in place to protect from flooding.

#### ***SB 102 (Budget and Fiscal Review Committee; Chapter 397, Statutes of 2013)—State Employees, Memoranda of Understanding***

Senate Bill (SB) 102 approves side letter agreements recently entered into between the administration and State Bargaining Units 1, 3, 4, 5, 7, 11, 12, 15, 17, 18, 19, and 20. These agreements amend existing memoranda of understanding but do not constitute new agreements. This bill would take effect immediately. DWR's analysis addresses only Section 4 of the bill relating to Bargaining Unit 12, which includes employees of DWR. Among other things, the

provisions of this agreement are intended to help DWR retain highly skilled employees to operate the State Water Project.

### ***SB 749 (Wolk; Chapter 387, Statutes of 2013)—Habitat Protection: Endangered Species: Land Management***

SB 749 extends accidental take protection, requires independent scientific review of endangered species status reports, and provides that revenue collected from agricultural leases be used in maintaining and operating the properties that generate it. This bill would also require the water transfer guide that is prepared by DWR to include specific fish and wildlife information.

### ***SB 753 (Steinberg; Chapter 639, Statutes of 2013)—Central Valley Flood Protection Board***

This bill clarifies and expands the authority of the Central Valley Flood Protection Board to engage in enforcement actions against persons or public agencies that interfere with, obstruct the performance, maintenance, or operation of, or otherwise adversely affect facilities of, the State Plan of Flood Control, designated floodways, or streams that are regulated by the board.

## **Federal Legislation**

There was no significant federal legislation in 2013 affecting management of the SWP.

## **Litigation**

As of December 31, 2013, DWR was involved in, or closely monitored, a number of court cases and other actions related to the management of the SWP.

### **Sacramento-San Joaquin Delta**

#### ***Delta Smelt***

***Delta Smelt Consolidated Cases (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-407). San Luis & Delta-Mendota Water Authority, et al. v. Salazar, et al. (U.S. Dist. Ct., Eastern***

*Dist. Cal., No. 1:09-cv-00407); State Water Contractors v. Salazar, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-00480); Coalition for a Sustainable Delta, et al. v. United States Fish and Wildlife Service, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-00422); Metropolitan Water District of Southern California v. United States Fish and Wildlife Service, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-00631); Stewart and Jasper Orchards, et al. v. United States Fish and Wildlife Service, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-00892); Family Farm Alliance v. Kenneth Salazar, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-01201).*

Litigation stemming from a coalition of environmental groups' challenge to the 2005 biological opinion (BiOp) on Delta Smelt issued by the U.S. Fish and Wildlife Service (USFWS) continued. USFWS issued the BiOp in 2005, and after judicial review, the 2005 BiOp was found to be unlawful and USFWS was ordered to prepare a new one. On December 15, 2008, USFWS issued a new BiOp. State and federal water contractors, along with DWR, challenged the BiOp in court alleging that the BiOp violated the National Environmental Policy Act (NEPA), the federal Endangered Species Act (ESA), and the Administrative Procedure Act (APA). After a hearing, the federal district court found USFWS had not complied with the ESA and APA in developing the new BiOp, and once again ordered USFWS to issue a new BiOp in line with the court's ruling. The district court also ruled that the Bureau of Reclamation needed to comply with NEPA prior to implementing the BiOp. (Further details of this litigation are described in earlier bulletins.)

The parties appealed the district court's ruling to the Ninth Circuit Court of Appeals. On September 10, 2012, the United States Court of Appeals for the Ninth Circuit heard oral argument and took the matter under submission. In 2013, the Ninth Circuit did not issue a ruling. However, the Eastern

District Court granted the request of the water and federal fish agencies to extend the deadline in order to implement an adaptive management program.

### **Salmon**

***The Consolidated Salmon Cases (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1053). San Luis & Delta-Mendota Water Authority, et al. v. Gary F. Lock, as Secretary of the United States Department of Commerce, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1053); Stockton East Water District, et al. v. National Oceanic and Atmospheric Administration, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1090); State Water Contractors v. Gary F. Locke, Secretary, etc., et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1053); Kern County Water Agency, et al. v. United States Department of Commerce, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1520); Oakdale Irrigation District, et al. v. United States Department of Commerce, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1580); The Metropolitan Water District of Southern California v. National Marine Fisheries Service, et al. (U.S. Dist. Ct., Eastern Dist. Cal., No. 1:09-cv-1625).***

Litigation stemming from a challenge to the 2004 BiOp issued by the National Marine Fisheries Service (NOAA Fisheries) continued. In August 2005, a coalition of environmental groups challenged the 2004 BiOp in federal district court. On April 16, 2008, the court held that the 2004 BiOp violated the ESA and APA and ordered NOAA Fisheries to prepare a new BiOp. NOAA Fisheries issued a new BiOp in June 2009. In September 2009, federal and State water contractors challenged the issuance and adoption of the BiOp on the grounds that the federal defendants failed to comply with NEPA, the ESA, and the APA. DWR joined the litigation in January 2010.

On September 20, 2011, the district court issued a memorandum of decision finding in favor of the plaintiffs in part and the defendants in part on the ESA issues. The court instructed NOAA Fisheries to prepare a new BiOp by February 1, 2016. The parties appealed the decision to the Ninth Circuit Court of Appeals and briefs were filed in 2012 and 2013. In 2013, the Ninth Circuit did not issue a ruling. However, the Eastern District Court granted the request of the water and federal fish agencies to extend the deadline for a rewrite of the NOAA Fisheries BiOp by one year in order to implement an adaptive management program.

### ***California Water Impact Network, California Sportfishing Protection Alliance, and AquAlliance v. California State Water Resources Control Board and California Department of Water Resources (Super. Ct. Sacramento County, No. 34-2010-80000653).***

The conservation groups allege that permit approvals and enforcement failure by the State Water Resources Control Board (SWRCB) has allowed DWR to cause extensive damage to the Bay-Delta Estuary and the fish and wildlife that live there. The administrative record was prepared.

There was no new activity or developments to report for this case in 2013.

### **Longfin Smelt**

***State Water Contractors v. California Department of Fish and Game, Donald Koch, Director of the California Department of Fish and Game, California Department of Water Resources, Lester Snow, Director of the California Department of Water Resources (Super. Ct. Sacramento County, No. 34-2009-80000203).*** This case, which challenges Incidental Take Permit No. 2081-2009-001-03 issued by the Department of Fish and Wildlife, remains stayed pending completion of the federal litigation challenging the BiOps for Delta Smelt and salmonids. (For details about this litigation, see Bulletin 132-12 and earlier bulletins.)

In 2012, the parties agreed to another stay of the matter. The basis for the continued stay is the upcoming potential federal listing of the Longfin Smelt, potential federal BiOp, and the ongoing Bay Delta Conservation Plan process.

There were no new developments to this case in 2013.

### **Bay Delta Conservation Plan**

**Property Reserve, Inc. v. The Superior Court of San Joaquin County; Department of Water Resources, real party in interest: The Carolyn Nichols Revocable Living Trust v. The Superior Court of San Joaquin County; Department of Water Resources, real party in interest (C067765) Coordinated Proceedings Special Title (Rule 3.550) (C067758, writ denied).**

In earlier lower-court litigation, 24 Delta property owners declined to grant DWR's request to gain temporary entry onto their properties to perform environmental and geological surveys. DWR sought orders for temporary entry onto the respondents' properties under Code of Civil Procedure Section 1245.010 et seq.

The court granted DWR's request for environmental surveys. However, in April 2011, the court denied DWR's request for geotechnical surveys on the grounds that the proposed surveys were a taking and beyond the scope of studies allowed under Code of Civil Procedure Section 1245.010 et seq.

The Delta landowners appealed the environmental order and DWR filed an appeal from the order denying the geotechnical surveys. After the Third District Court of Appeal denied the landowners' appeal, the landowners took their petitions to the Supreme Court. The Supreme Court granted the petitions and directed the Third District Court of Appeal to reconsider the matter. The Third District Court of Appeal then granted the landowners' request for stay and consolidated the appeals.

With consolidation of the matters on appeal, briefing continued throughout 2012. A hearing was set for October 25, 2013, but no ruling was issued by the end of the year.

### **Jones Tract**

**Armando P. Vanni, et al. v. Ridge Land Reclamation District #2039 (Super. Ct. San Joaquin County, No. C072383, app. pending).**

Three consolidated lawsuits alleging damages arising out of the levee breach on Upper Jones Tract in 2004 went to trial from August 22 to December 29, 2011.

In April 2012, the court entered judgment in favor of DWR. The court found that the plaintiffs failed to show a causal connection between the levee failure and State Water Project operations. The plaintiffs appealed, and briefing occurred throughout 2013.

### **State Water Resources Control Board Hearing**

SWRCB Water Right Decision 1641 contains a water quality objective requiring DWR to annually maintain 0.7 millimhos per centimeter electrical conductivity at three compliance points within the South Delta, from April 1 through August 31, beginning in 2005. In response to allegations that the water quality objective was not being met and would not be met, the SWRCB issued a cease and desist order, which was final on May 16, 2006, requiring DWR and Reclamation to take corrective actions to eliminate the threat of noncompliance.

After a period of negotiations, the SWRCB issued a final order in 2010, modifying its 2006 order, which extended the schedule to implement measures to meet the water quality objectives pending completion of the SWRCB's review and potential modification of the salinity objectives. The order also required DWR, along with Reclamation, to undertake studies to assess the feasibility of implementing various measures to meet the salinity objectives.

In 2011, DWR began working with the SWRCB and the Delta Watermaster to facilitate lasting solutions to the issues raised in the order. Studies conducted pursuant to the cease and desist order indicate that the salinity experienced in the southern Delta is attributable, in large part, to local sources and not to DWR or Reclamation activities. Through continued coordination with the Delta Watermaster, additional studies were underway in 2012 to determine the sources of this local salinity and explore options for reducing those sources. There was no new activity on this case in 2013.

## Hydropower

### *Hyatt-Thermalito*

#### *Alameda County Flood Control & Water Conservation District, Zone 7 et al. v. State of California Department of Water Resources (C065522)*

In 2005, 14 Northern California State Water Contractors sued DWR alleging that the method used by DWR to allocate the costs and revenues of Hyatt-Thermalito power at Oroville violated the long-term water supply contracts. The Metropolitan Water District of Southern California and other southern State Water Contractors intervened in the case as defendants in support of DWR's determination concerning the interpretation of the long-term water supply contract provisions. The trial court found that DWR properly allocated revenue from Hyatt-Thermalito power generation and ruled in favor of DWR.

The plaintiffs filed an appeal on July 8, 2010, and on February 15, 2013, the Court of Appeal issued its decision upholding the trial court's decision. The plaintiffs did not appeal to the California Supreme Court, and the litigation has come to an end.

#### *Oroville Relicensing—Federal Energy Regulatory Commission Project No. 2100*

#### *Butte County et al. v. Department of Water Resources (C071785, app. pending)*

DWR is seeking renewal of the Federal Energy

Regulatory Commission (FERC) license for its hydroelectric generation facilities at Oroville (Project No. 2100). DWR filed its relicensing application in 2005. The original 50-year FERC license expired on January 31, 2007. In February 2008, FERC authorized continued operation by issuing an annual license—under the same terms and conditions—that renews each year until FERC issues a new license. (Details of the license renewal negotiations and litigation are described in previous bulletins.)

In January 2012, the court denied the petitioner's requests to set aside the EIR prepared by DWR and upheld the award to DWR of \$675,087 in charges for the administrative record required to proceed with the suit. The court found that the EIR was legally adequate and noted that the record preparation complied with the California Environmental Quality Act (CEQA) and was reasonable and necessary. The petitioners, Butte and Plumas counties, appealed the judgment, and the appellate briefs were filed in 2013. No hearing date had been set for oral argument by the end of the year.

## Other Cases

### *The Monterey Amendment*

*Central Delta Water Agency et al. v. California Department of Water Resources (Super. Ct. Sacramento County, No. 34-2010-80000561) (Central Delta I); Central Delta Water Agency et al. v. Kern County Water Agency et al., DWR et al., real parties in interest (Super. Ct. Kern County, No. S-1500-CV-270965) (Central Delta II); Rosedale-Rio Bravo Water Storage District and Buena Vista Water Storage District v. DWR (Super. Ct. Kern County, No. S-1500-CV-270635-KCT) (Rosedale-Rio Bravo).* Legal challenges were brought against the 1995 Monterey Amendment and the EIR adopted by DWR in 2010. (The Monterey Amendment, litigation challenging the amendment and the first EIR, the settlement of that litigation, development of the second EIR, and

litigation prior to consolidation of the cases in Sacramento County Superior Court are described in earlier bulletins.)

In April 2012, the court granted DWR's request to try the CEQA claims, time-bar affirmative defense, and reverse validation/mandate claims separately. The trial was set for November 2, 2012.

In December 2012, DWR prevailed on its challenge to the plaintiffs' validation causes of action (including the validity of the Kern Fan Element transfer) on the grounds that they were not timely filed. This leaves only the plaintiffs' CEQA compliance challenge, unless the plaintiffs appeal and are successful in their appeal to reinstate the validation causes of action. The remaining cause of action, a CEQA challenge to the sufficiency of the 2010 EIR, has been set for a hearing on the merits on January 31, 2014. The Central Delta and Rosedale-Rio Bravo cases have been consolidated for the hearing.

### Water Diversions

***Cortopassi Partners, a California limited partnership and Reclamation District 2086 v. The State of California (Super. Ct. San Joaquin County, No. CV034843).*** Plaintiffs allege that DWR has created and maintained a nuisance in the Sacramento-San Joaquin Delta by artificially diverting water through the Delta for the SWP.

Although the trial for this case was originally set for early 2012, due to a change in attorneys at the Attorney General's office, the court moved the trial to January 28, 2013. A 27-day trial was held in early 2013. On May 16, 2013, the court found that the plaintiffs had failed to meet their burden of proof and that DWR's operation of the SWP did not violate the North Delta Water Agency contract or cause a private nuisance.

### Breach of Contract Arbitration

***State of California acting by and through the Department of Water Resources v. Whitaker Contractors, Inc., a California corporation; Whitaker Contractors, Inc., a California corporation v. State of California acting by and through the Department of Water Resources (OAH No. A-0031-07).*** This breach of contract claim arose out of the Tehachapi East Afterbay completion construction project. The contractor failed to perform work according to contract requirements and was terminated. After lengthy arbitration proceedings, on August 11, 2011, the superior court entered a final judgment upholding the termination of the contractor and awarding DWR \$16.4 million. Whitaker appealed the court's judgment, and as of December 2013, the parties had completed filing their appellate briefs. The court is expected to schedule oral arguments soon. In the meantime, DWR continued its efforts to collect on the judgment.

### Colorado River

***Quantification Settlement Agreement Cases ((2011) Cal.App.4th 758).*** These nine claims, which have been coordinated into a single proceeding before the Sacramento County Superior Court, challenge the Quantification Settlement Agreement (QSA) and associated actions taken to implement the QSA—a collection of 38 agreements that resolve disputes among water users in Southern California regarding their rights to California's shrinking share of Colorado River water. (The QSA and earlier litigation activities are described in bulletins from 2007 through 2011.)

In 2012, the respondents' 2011 request for Supreme Court Review of this case was denied. On remand from the Court of Appeal, the Sacramento County Superior Court heard oral arguments in November 2012 on how water agencies will share supplies of water from the Colorado River. In June 2013, the Superior Court validated the

QSA agreements related to large transfers of Colorado River water and approved CEQA review.

### ***Area of Origin***

***Solano County Water Agency, Napa County Flood Control and Water Conservation District, City of Yuba City, and County of Butte v. California Department of Water Resources and Does 1–50 (Super. Ct. Sacramento County, No. 34-2008-00016338).*** In July 2008, four SWP water supply contractors—Solano County Water Agency, Napa County Flood Control and Water Conservation District, City of Yuba City, and County of Butte—sued DWR claiming priority to delivery of SWP water and protections from water shortages based on area and watershed of origin statutes, and because they signed SWP water supply contracts. Fourteen SWP contractors located south of the Delta and outside the area of origin have intervened.

The parties negotiated agreements in principle for settlement. On June 17, 2013, the parties filed a stipulation and proposed order of stay until the court approves the settlement agreement.

### ***Perris Dam***

***Metropolitan Water District; Coachella Valley Water District; Desert Water Agency, Real Parties; Albert Thomas Paulek v. California Department of Water Resources (Super. Ct. Riverside County, No. RIC1120142).*** On December 21, 2011, Paulek filed a writ petition challenging DWR's approval of the Perris Dam remediation program final EIR. The petition raises numerous challenges, including that the EIR does not adequately address and mitigate for impacts on the endangered Stephen's Kangaroo Rat or on various species covered by a multispecies habitat conservation plan.

On October 1, 2013, the Superior Court denied the writ, holding Paulek had standing to sue under CEQA, but that his substantive arguments lacked merit. The plaintiff has appealed.

## Environmental Review Acts

The National Environmental Policy Act (NEPA) (Title 42 United States Code Sections 4321–4347 [1970]) and the California Environmental Quality Act (CEQA) (California Public Resources Code Sections 21000–21177 [1970]) require government agencies to document and consider environmental consequences of their actions in their decision-making processes. NEPA states that it is the goal of the federal government to use all practicable means consistent with other considerations of national policy to protect and enhance the quality of the environment. All federal agencies must prepare an environmental impact statement (EIS), including a discussion of mitigation measures and alternatives, for federal actions that could significantly affect environmental quality.

CEQA is patterned after NEPA. Under CEQA, State and local agencies are required to (1) disclose, through an environmental impact report (EIR), the significant impacts a proposed project would have on the environment, and (2) identify ways to reduce or avoid environmental damage.

CEQA applies to projects directly undertaken, funded, or approved by State or local agencies. NEPA applies to projects directly undertaken, funded, or approved by federal agencies. The Department of Water Resources (DWR) conducts many projects in cooperation with federal agencies. In these cases, both CEQA and NEPA must be followed.

NEPA requires that mitigation measures and alternatives be disclosed to the public in the EIS, but it does not generally require federal agencies to adopt such mitigation measures or alternatives. CEQA does impose substantive duties on all California government agencies approving projects with significant environmental impacts to adopt alternatives or mitigation measures that they find to be feasible to substantially lessen these impacts, unless there are overriding reasons they cannot. When a project is subject to both CEQA and NEPA, both laws encourage agencies to cooperate in planning the project and preparing joint environmental documents.

The environmental review process allows citizens to learn about a proposed project and its potential significant effects and to participate in the decision-making process by providing feedback on agency information. The review process requires agencies to:

- describe the proposed project and the purpose or need for it;
- identify the lead and cooperating agencies involved in the project;
- invite interested parties to participate in the process;
- determine the scope of study with input from responsible agencies and the public;
- prepare and distribute a draft EIS or EIR;
- respond to comments received on the draft;
- prepare the final EIS or EIR;
- make findings and adopt feasible alternatives or mitigation measures to avoid significant effects, if applicable;

## Environmental Review Acts

- adopt a monitoring plan to ensure compliance with mitigation measures; and
- prepare a list of permits required to implement the project if it is approved.

The scoping phase, which occurs early in the review process, is particularly important because it enables government agencies to identify issues and topics to be considered or addressed in the EIS or EIR.

Information gathered in the scoping phase helps agencies identify and evaluate reasonable alternatives, identify potential environmental impacts of the project, determine data and information needed, develop a work schedule, and allocate resources for preparing and distributing the draft environmental document for public review and comment.

NEPA requires a lead agency to involve the public during scoping, while CEQA does not. CEQA, however, does encourage public involvement, and agencies often opt to conduct activities that provide for wide public involvement. Members of the public may raise issues and identify additional alternatives, environmental effects, methods of assessment, and mitigation measures during the scoping phase and continue to participate in the review process for the draft environmental document. Thus, the CEQA process may lead to changes in a project through the development, consideration, and adoption of alternatives or enforceable mitigation measures to avoid or reduce any potential significant adverse effects on the environment.

If the project is approved, the lead agency publishes a document discussing all the factors considered in reaching its decision to proceed with the proposed action. It also discusses whether all practical means to avoid or minimize environmental harm have been adopted, and if not, the reasons they were not.





## Chapter 7

# Water Supply Development and Reliability

*Thermalito Diversion Dam and Pool.*

## Significant Events in 2013

**J**n 2013, Yuba County Water Agency (Yuba) delivered 60,000 acre-feet (af) of Component 1 water, 15,000 af of Component 2 water, 37,544 af of Component 3 water, and 64,730 af of Component 4 water for a total of 177,274 af provided to the Department of Water Resources (DWR) and the Bureau of Reclamation (Reclamation) under the 2007 DWR/Yuba Water Purchase Agreement to help augment State Water Project (SWP) and Central Valley Project (CVP) water supply reliability. Half of the water was shared among DWR and some of the SWP contractors, and the other half was shared among Reclamation and some of its CVP contractors.

On September 1, 2013, the Delta Stewardship Council (DSC) issued its legally enforceable *Delta Plan* required under the *Sacramento-San Joaquin Delta Reform Act of 2009* (Delta Reform Act). The *Delta Plan* creates new rules and recommendations to further the State's coequal goals for the Delta: to improve statewide water supply reliability; and to protect, restore, and enhance the Delta ecosystem.

On December 17, 2013, as the State was experiencing one of the driest periods on record, the Governor directed the California Department of Food and Agriculture, the State Water Resources Control Board (SWRCB), DWR, and the Office of Emergency Services to immediately convene an interagency Drought Task Force to meet weekly and review expected allocations, California's state of preparedness, and whether conditions warrant declaration of a statewide drought.

*Information in this chapter was contributed by the State Water Project Analysis Office, the Division of Integrated Regional Water Management, the Division of Statewide Integrated Water Management, and the Bay-Delta Office.*

The Department of Water Resources (DWR) is working to improve the reliability of State Water Project (SWP) supplies and the long-term water contract annual Table A water allocations delivered to SWP water contractors. Staff is engaged in planning activities to develop additional water supplies and storage capacity.

Developing new water supplies and storage projects that are economically, environmentally, and technically sound, while satisfying institutional requirements and political concerns, presents significant challenges. Many concerns center on possible adverse effects that additional storage and delivery facilities may have locally and on the Sacramento-San Joaquin Delta. In the SWP conveyance system, the Delta is the critical link between water supplies in the Sacramento Valley and deliveries to the rest of the Central Valley and Southern California.

DWR works with the State and federal governments, local agencies, and public interest stakeholder groups to ensure water supply reliability now and in the future. To meet SWP water contractors' needs for sufficient water supplies, DWR is engaged in planning, developing, and providing local assistance with the objective of augmenting future SWP water supplies.

## Supply Development and Reliability

Some of the activities DWR is engaged in to augment future SWP supplies include:

- facilitating transfers between SWP long-term contractors and other agencies, including Central Valley Project (CVP) contractors;
- funding studies on the Giant Garter Snake, a protected species known to inhabit rice growing regions of the Sacramento Valley, and rice

evapotranspiration, to better understand issues related to the transfer of water made available by crop idling;

- assisting with developing and implementing local and regional conjunctive use programs in the Sacramento Valley;
- constructing, operating, and maintaining a groundwater monitoring and subsidence monitoring network to detect potential impacts caused by groundwater substitution transfers;
- managing the Feather River watershed above Lake Oroville to reduce sedimentation in the lake and preserve storage capacity; and
- investigating and evaluating storage projects.

## Water Conveyance Through the SWP

DWR encourages and facilitates temporary transfers of water using SWP conveyance facilities for long-term SWP water contractors and other agencies to help meet local, State, and environmental water supply needs. As a practical matter, SWP facilities are often needed to convey transfer water from the existing place of use to the place of use of the transferee. State law requires DWR to make unused SWP capacity available for transfers upon payment of fair compensation, provided that (1) no legal user of water will be injured; (2) there will be no unreasonable effect on fish, wildlife, or other instream beneficial uses; and (3) there will be no unreasonable effect on the overall economy or the environment of the county

from which the water is being transferred (California Water Code [CWC] Section 1810). Water transfers can involve transfers and exchanges among SWP long-term water contractors, between SWP water contractors and non-SWP entities, or between two or more non-SWP entities.

### ***Transfer and Exchange Evaluations***

An important element of any water transfer is determining what quantity of water, if any, is transferable.

The transferability of water depends on many factors including the source of the water being transferred, what is being done to make water available, when the water can be made available, and the type of water right the existing user holds. Several CWC provisions authorize temporary transfers of water rights issued by the State Water Resources Control Board (SWRCB) (appropriative water rights issued after 1914) and put conditions on the transfers to protect those not involved in them.

Short-term transfers, of less than one year, are authorized under Sections 1725–1732. Long-term transfers, for periods greater than one year, are authorized by Sections 1735–1737. Other CWC sections specify conditions under which water can be transferred and legal protections for those transferring water.

Transfers based on water rights obtained before 1914 are not under the jurisdiction of the SWRCB but must comply with the requirements of the California Environmental Quality Act (CEQA) and possibly the National Environmental Policy Act (NEPA).

The CWC sections noted above contain provisions intended to protect other legal users of water and fish and wildlife from the possible adverse effects of a water transfer. These provisions reflect the concept that changes can be made to the authorized place and purpose of use or point of diversion of a water supply as long as there is no injury

to others as a result of the change (the “no injury rule”). The no injury rule in State water law is intended to protect other legal users from the potential expansion of water use beyond what would have been consumed by the original users in the absence of the transfer. Hence, under the no injury rule, only “new water” is transferable (i.e., water added to the downstream water supply only as a result of the transfer). To protect other users, a transfer would not be authorized to the extent that it would reduce the amount or timing of water that would have been available to downstream users, regardless of the water right priority of those users.

CWC Section 1810(d) requires DWR to consider potential impacts of a transfer on legal users, instream uses, and the economy of the area from which the water would be transferred. DWR must determine whether to allow use of any surplus water conveyance capacity for a transfer. DWR reviews each request to transfer water through SWP facilities to assure that only new water will be transferred. This requirement applies to transfers based on both pre-1914 and post-1914 water rights.

Transfer water is most commonly developed through four methods: surplus water released from storage facilities, substitution of groundwater for transferred surface water, idling agricultural land, and undertaking conservation activities that develop new water. Transfers may result in direct impacts and third-party impacts (impact to parties not involved in the transfer). Certain CWC provisions were enacted to limit potential impacts. For example, additional groundwater pumping from a groundwater substitution program can potentially affect other groundwater users in the area. CWC Section 1745.10 generally requires that transfers of surface water in which groundwater will be pumped to make up for the transferred surface water: (1) be consistent with a groundwater management plan adopted pursuant to State law for the

affected area, or (2) not create or contribute to conditions of long-term overdraft in the affected groundwater basin.

Injury can also occur due to stream depletion induced by increased pumping from wells for groundwater-based transfers. The amount of water depleted from the stream must be deducted from the total groundwater pumped for the transfer or the net surface water flows will not increase as assumed. Consequently, to evaluate possible impacts from groundwater substitution transfers, DWR assesses a streamflow depletion factor, which represents an estimate of the effects of the additional groundwater pumping on the surface water system. Each type of transfer has its own set of potential impacts that must be evaluated to protect parties not involved in the transfer.

With the exception of short-term transfers under CWC Section 1725, which provides for an expedited process for water rights issued by the SWRCB, water transfers are subject to compliance with CEQA and, possibly, NEPA. The CEQA/NEPA and SWRCB processes provide opportunities for public review and comment on water transfer proposals.

Staff in the State Water Project Analysis Office, Division of Operations and Maintenance, Division of Integrated Regional Water Management, and the Office of the Chief Counsel evaluate proposed water transfers to determine whether the transfers will impact the SWP, other water users, the environment, or the area from which the water will be transferred.

## SWP Delivery Reliability Report

To assist local agencies with assessing their overall water supplies, DWR provided current data on the SWP's ability to deliver water under 2013 conditions (existing) and for projected conditions in 2033 (future) in a biennial report entitled *The State Water Project Draft Delivery Reliability Report 2013*.

The 2013 report is expected to be finalized in 2014, and the next update of this report is expected in March 2015.

Delivery reliability depends on three factors:

- (1) the availability of water at the source;
- (2) the ability to convey water from the source to the desired point of delivery; and
- (3) the level of demand.

Information in the 2013 report includes both existing conditions and projected conditions, which account for the forecast effects of climate change. In addition, the analysis of the ability to convey water from the source to the point of delivery assumes only SWP facilities, regulations, and permits existing in 2013. In order to provide a conservative estimate of water delivery reliability, no planned facility improvements to the SWP are assumed. Lastly, the level of demand for SWP water assumes the maximum Table A delivery amount is requested and reflects current trends in demand from SWP water contractors.

Detailed information on the assumptions, data, and results of existing and future condition studies for annual Table A water deliveries can be found in the 2013 reliability report available on DWR's website.

## SWP Future Water Supply Program

The Future Water Supply Program provides technical support within DWR for the Lower Yuba River Accord (Yuba Accord) and monitors and assesses conditions of the Sacramento Valley groundwater basin that may affect the yield of the SWP. The Future Water Supply Program's goal is to improve and protect the water supply reliability of the SWP while protecting the environment and other legal users of water. The four primary objectives of the Future Water

Supply Program are to: (1) collect, analyze, and report on data to determine the effects of groundwater substitution transfers on the SWP; (2) analyze and evaluate groundwater substitution transfers using the SWP; (3) monitor groundwater management and planning efforts that may affect the yield of the SWP; and (4) further develop and implement analytical tools to support effective groundwater management in the Sacramento Valley.

The Upper Feather River watershed management component of the program evaluates the Feather River watershed above Lake Oroville with respect to watershed management and restoration actions being planned or implemented. These actions are intended to improve the ecological and hydrologic functions of watersheds, thus affecting base flow, improving flood attenuation, and reducing erosion and sedimentation.

DWR continued collaborative efforts with local stakeholders in 2013 to implement and enhance monitoring activities for assessing the immediate and long-term hydrologic effects of these actions. The Thompson Creek Meadow Water Budget Study was included in these activities.

## Sacramento Valley Water Management Program

The precursor to the current Future Water Supply Program was DWR's work to incorporate conjunctive-use projects in the Sacramento Valley into the SWP to increase SWP dry-year yield. Similar projects were proposed to be implemented by the Sacramento Valley Water Management Agreement, which was signed by stakeholders in early 2003.

For more information on issues surrounding the Sacramento Valley Water Management Agreement, see Bulletins 132-02, 132-03, and 132-04, available on DWR's website.

## SWP Water Rights Activities

### Water Right Permits

SWP operations are governed by the terms and conditions contained in DWR's water right permits and licenses along with other State and federal regulatory restrictions, including biological opinions (BiOps) for the protection of endangered species. DWR holds water right permits authorizing SWP operations at each of the SWP facilities, including the Oroville and Delta facilities (which include the North Bay Aqueduct), for water supply purposes. Each permit specifies the authorized quantities of direct diversion and diversion to storage, place of use, purpose of use, and time within which the permitted quantities must be put to beneficial use. A change in any of the terms and conditions contained in the water right permits and licenses, including a change in the place or purpose of use or point of diversion, requires SWRCB approval.

Diversion and use of SWP water throughout the SWP service area has increased since initial operations in the 1960s. However, due to a number of factors, including operational and regulatory constraints, the beneficial use of water has not yet reached the maximum quantities anticipated for full development of the SWP.

Pursuant to CWC Section 1725, on July 1, 2013, the SWRCB approved a temporary change in the authorized place of use of (1) the Bureau of Reclamation (Reclamation) license and permits to include the SWP authorized place of use downstream of Banks Pumping Plant; and (2) the DWR permit to include the CVP authorized place of use downstream of Jones Pumping Plant to facilitate several exchanges between SWP and CVP contractors. The SWRCB order approved a maximum total exchange amount of 196,000 acre-feet (af) from July 1, 2013, through June 30, 2014, for six exchanges including (1) Santa Clara Valley Water District; (2) Oak Flat Water District/

Del Puerto Water District; (3) Kern County Water Agency/Kern-Tulare Water District; (4) Castaic Lake Water Agency/San Luis Water District; (5) Arvin-Edison Water Storage District/The Metropolitan Water District of Southern California; and (6) Kern County Water Agency/Westlands Water District. A total of 23,993 af were exchanged under the order in 2013. Additional water may be exchanged under the order in 2014.

## Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

The Delta and Suisun Marsh are located where California's two major river systems, the Sacramento and the San Joaquin, converge and flow westward to meet incoming seawater tides flowing through the San Francisco Bay. The watershed of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Estuary) is a critical source of water supply for much of California. The watershed is a source of drinking water for two-thirds of the State's population; it supplies some of the State's most productive agricultural areas; and it provides water for fish, wildlife, and other public trust uses of water within and upstream of the estuary.

Water originating in the Bay-Delta watershed is delivered to areas within the watershed and to areas south and west of the estuary. The largest water distribution systems that release stored water into the Delta and directly divert water from the Delta are the SWP, operated by DWR, and the federal CVP, operated by Reclamation. Numerous other water storage and diversion projects influence Bay-Delta Estuary inflows, outflows, water quality, and other hydrologic characteristics.

The SWRCB regulates both the quality of water in the Bay-Delta Estuary and the diversion and use of water released into and diverted from the estuary for water supply.

The SWRCB coordinates its regulatory authorities under State laws governing water quality and water rights, ensuring that water quality is protected for all beneficial uses when water is diverted from the estuary.

In 1999, the SWRCB adopted Water Right Decision 1641 (later modified by Order WR 2000-02) modifying the terms and conditions of a number of water right permits and licenses, primarily those for the SWP and CVP, to implement the objectives of the 1995 water quality control plan.

Under its authority to protect beneficial uses of water, the SWRCB adopted the *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (Bay-Delta Plan) on December 13, 2006 (Resolution No. 2006-0098). The Bay-Delta Plan contains objectives for flow, salinity, dissolved oxygen levels, and other parameters necessary for protection of various beneficial uses such as municipal and industrial, agricultural, and fish and wildlife. The SWRCB implements these objectives in part or in whole, depending on the circumstances, through conditions on water right permits and licenses.

## SWRCB Bay-Delta Proceedings—2013 Activities

In 2013, SWRCB proceedings examined a number of issues in the Bay-Delta Estuary relating to water quality, protection of beneficial uses for agriculture and fish and wildlife, and salinity issues, among others, which have the potential to affect Delta water supply and reliability.

### 2006 Bay-Delta Plan Review

Water Code Section 13240 requires that the water quality control plan be periodically reviewed. Federal Clean Water Act Section 303(c) (33 U.S.C. Section 1313(c)) requires a triennial review of State water quality "standards," as defined in the act.

A workshop on October 8, 2008, formally began a review of the 2006 Bay-Delta Plan.

The review and amendment process for the 2006 Bay-Delta Plan consists of:

- identifying elements that may need amendment or new elements that may need to be added;
- preparing any amendments or revisions to the entire water quality control plan; and
- SWRCB's adoption of some or all of the amendments or revisions.

SWRCB information-gathering activities may affect the scope of the Bay-Delta Plan review and may include evidentiary hearings on critical issues concerning the Delta's ecology. The Bay Delta Conservation Plan environmental review may provide some of the analyses needed for the comprehensive Bay-Delta Plan review.

In 2013, SWRCB continued its review and update of the 2006 Bay-Delta Plan. The work consists of a four-phased process to develop and implement updates to the Bay-Delta Plan and flow objectives for priority tributaries to the Delta to protect beneficial uses in the Bay-Delta watershed. Phase 1 includes review and potential modification of the San Joaquin River flow objectives for the protection of fish and wildlife beneficial uses, the southern Delta water quality objectives for the protection of agricultural beneficial uses, and the program of implementation for those objectives. Phase 2 involves other comprehensive changes to the Bay-Delta Plan to protect beneficial uses not addressed in Phase 1. Phase 3 involves changes to water rights and other measures to implement changes to the Bay-Delta Plan from Phases 1 and 2. Phase 4 involves developing and implementing flow objectives for priority Delta tributaries outside of the Bay-Delta Plan updates.

Phase 2 was initiated with three public workshops in 2012. The workshops gathered information and discussed the scientific and technical basis for considering potential changes to the 2006 Bay-Delta Plan. Topics included ecosystem changes and the low-salinity zone; Bay-Delta fishery resources (focusing on pelagic fishes and salmonids); and analytical tools for evaluating the water supply, hydrodynamic, and hydropower effects of the Bay-Delta Plan.

In June 2013, SWRCB received the *Comprehensive (Phase 2) Review and Update to the Bay-Delta Plan: Final Bay-Delta Plan Workshops Summary Report*, which discusses these topics.

For more information about water quality objectives and compliance monitoring in the South Delta, see Chapter 4, Water Quality Programs.

## Delta Stewardship Council Activities

On September 1, 2013, the Delta Stewardship Council issued its legally enforceable *Delta Plan* required under the *Sacramento-San Joaquin Delta Reform Act of 2009* (Delta Reform Act). The *Delta Plan* creates new rules and recommendations to expand the State's coequal goals for the Delta: to improve statewide water supply reliability; and to protect, restore, and enhance the Delta ecosystem, all in a manner that preserves, protects, and improves the unique agricultural, cultural, and recreational characteristics of the Delta.

The *Delta Plan* is founded on cooperation and coordination among affected agencies and is enforceable through regulatory authority that requires State and local agencies to be consistent with the *Delta Plan*.

## Storage Program

DWR is the State lead agency for the Storage Program, which consists of surface storage studies and groundwater programs and projects. The Storage Program began under the CALFED Bay-Delta Program. (For background on the CALFED Bay-Delta Program, see Bulletins 132-95 through 132-11.)

The Storage Program is a comprehensive program with potential benefit for the SWP consisting of actions related to surface and groundwater storage. DWR's Division of Statewide Integrated Water Management and Division of Integrated Regional Water Management have been working with State and federal agencies to enhance storage and conjunctive-use programs that support local project development via loans and grants. The Storage Program is part of an ongoing evaluation of how storage, both groundwater conjunctive use and surface storage, can help meet California's urban, agricultural, and environmental water supply reliability, ecosystem restoration, and water quality needs.

## Surface Storage Investigations

Surface storage investigations are developing environmental documentation and feasibility studies for four of the five surface storage projects identified for further study in the CALFED record of decision.

### ***Los Vaqueros Reservoir Expansion Project***

Contra Costa Water District owns and operates the 100,000 af Los Vaqueros Reservoir just southwest of the Sacramento-San Joaquin Delta. The Los Vaqueros Reservoir Expansion Project involves analysis of increasing reservoir storage by as much as 175,000 af, for a potential storage capacity of up to 275,000 af.

The project objectives are: (1) to develop water supplies for environmental water

management; (2) to increase water supply reliability within the San Francisco Bay Area; and (3) to the extent possible, improve the quality of water deliveries to municipal and industrial customers without impairing the project's ability to meet the first two objectives.

The Contra Costa Water District Board certified a final environmental impact report and approved an expansion from 100,000 af to 160,000 af on March 31, 2010. The expansion was completed and dedicated July 13, 2012.

With additional funding, local, State, and federal partners may choose to continue to study the feasibility of a 275,000 af expansion alternative in the context of other Delta initiatives to improve Delta conveyance and better protect Delta fisheries, including long-term programs being explored in the Bay Delta Conservation Plan.

### ***Shasta Lake Water Resources Investigation***

Reclamation, in coordination with other agencies, is studying the feasibility of expanding Shasta Dam and Lake, primarily to promote increased survival of anadromous fish populations in the upper Sacramento River and to increase water supply reliability. An enlargement of Shasta Dam would inundate additional lands around the existing reservoir and affect a portion of the McCloud River. California Public Resources Code Section 5093.542(c), the Wild and Scenic Rivers Act, states that, "except for participation by the Department of Water Resources in studies involving the technical and economic feasibility of enlargement of Shasta Dam, no department or agency of the state shall assist or cooperate with, whether by loan, grant, license, or otherwise, any agency of the federal, state, or local government in the planning or construction of any dam, reservoir, diversion, or other water

impoundment facility that could have an adverse effect on the free-flowing condition of the McCloud River, or on its wild trout fishery."

The State budget does not include funding for DWR to continue participating in this study. However, Reclamation's planning is ongoing. In June 2013, Reclamation released a draft environmental impact statement.

### ***North-of-the-Delta Offstream Storage Investigation***

DWR and Reclamation are working in partnership with local, State, and federal agencies to further study north-of-the-Delta offstream storage opportunities. The North-of-the-Delta Offstream Storage Investigation focuses on potential projects on the west side of the Sacramento Valley, including Sites Reservoir.

Storing water in offstream reservoirs during excess flow periods could provide opportunities to increase water storage in an environmentally sensitive manner. The stored water can then be made available to enhance water management flexibility in the Sacramento Valley and the Bay-Delta Estuary, reducing water diversions on the Sacramento River during critical fish migration periods, increasing the reliability of supplies for the Sacramento Valley and statewide, and providing storage and operational flexibility to support environmental enhancement actions and adapt to climate change.

North-of-the-Delta Offstream Storage Investigation studies were ongoing in 2013.

### ***Upper San Joaquin River Basin Storage Investigation***

DWR and Reclamation, in coordination with other State and federal agencies, are evaluating opportunities for increased storage in the upper San Joaquin River watershed. The objectives of the Upper San

Joaquin River Basin Storage Investigation are to: (1) increase water supply reliability and operational flexibility in the CVP's Friant Division, other San Joaquin Valley areas, and other regions, and (2) enhance water temperature and flow conditions in the San Joaquin River in support of San Joaquin River restoration efforts. Other opportunities include additional hydropower generation, reduction of flood damages, water quality improvements, and recreation site development.

In May 2009, Reclamation and DWR released a plan formulation report for the Upper San Joaquin River Basin Storage Investigation that described the alternative formulation, evaluation, and comparison activities that led to selection of Temperance Flat RM 274 Reservoir for detailed feasibility-level evaluation. The report described the progress of the study to date and included additional information on the economics, operations, and costs of Upper San Joaquin River Basin Storage Investigation alternatives. It also defined a set of alternative plans to be considered in the study's feasibility report and environmental impact statement/environmental impact report.

The study continued in 2013 with draft and final feasibility studies and environmental documents scheduled for 2014 and 2015.

## **Delta Conveyance Program**

The Conveyance Program previously consisted of projects proposed in the North and South Delta. As a result of the efforts associated with Bay Delta Conservation Plan and the Delta Stewardship Council's *Delta Plan*, many of these efforts were suspended as staff was redirected to work on the SWP Delta Compliance Program. The remaining projects are discussed briefly below; more detailed information about the Delta can be found in Chapter 2, Delta Resources.

## SWP Delta Compliance Program

The SWP obtained take authorization for federal and California Endangered Species Act listed species through the December 2008 U.S. Fish and Wildlife Service BiOp for Delta Smelt; the February 2009 Department of Fish and Wildlife incidental take permit (ITP) for Longfin Smelt; and the June 2009 National Marine Fisheries Service (NOAA Fisheries) BiOp for salmon, steelhead, and Green Sturgeon. Many of the regulatory requirements will require studies and projects, which are currently underway.

### Ad Hoc Studies

In January 2012, a joint stipulation was filed in the consolidated salmonid cases litigation regarding the 2009 NOAA Fisheries BiOp. The 2012 Stipulation Study was undertaken to gain more information about the effects of SWP and CVP export operations on juvenile steelhead and fall-run Chinook salmon; gain a better understanding of Old River and Middle River reverse flows on steelhead route selection and survival in the South Delta; and pilot an approach to manage water export risks to Endangered Species Act listed salmonids. The study was successfully planned and completed and was the first of its kind to utilize real-time data to inform in-season management and water operations.

During 2013, a data analysis plan was prepared and approved by an interagency technical team. The analysis was completed and a draft technical report was prepared for review.

## North Delta

With the North Delta Flood Control and Ecosystem Restoration Project, solutions to improve flood management and the ecosystem are being considered, including setback levees, detention basins, dredging, and levee degradation for floodplain expansion. For more information about this project, see Chapter 2, Delta Resources.

## South Delta

Actions in the South Delta include the South Delta Improvements Program (SDIP), implementing flood control and ecosystem improvements in the lower San Joaquin River, completion of an intertie between the SWP California Aqueduct and CVP's Delta-Mendota Canal, and continuation of DWR's Temporary Barriers Program.

SDIP is a two-stage project. Stage 1 proposes to reduce the movement of San Joaquin River watershed Central Valley fall-run and late fall-run juvenile Chinook Salmon into the South Delta via Old River and to maintain adequate water levels and water quality for agricultural diversions in the South Delta. Stage 2 would increase water deliveries and delivery reliability to SWP and CVP contractors south of the Delta and increase the maximum permitted level of diversion through the existing intake gates at Clifton Court Forebay.

The SDIP final environmental impact report/environmental impact statement (2006) evaluated alternatives and proposed proceeding with SDIP Stage 1. This component involves constructing permanent operable gates and channel dredging in the South Delta. DWR is proposing installation of these permanent gates to replace temporary rock barriers currently installed and removed each year under DWR's Temporary Barriers Program.

Reclamation and DWR's 2008 biological assessment for the SWP and CVP Long-term Operations Criteria and Plan included operation of the SDIP permanent operable gates.

The U.S. Fish and Wildlife Service BiOp, issued in December 2008, concluded that coordinated operations of the CVP and SWP would jeopardize Delta Smelt. The U.S. Fish and Wildlife Service provided a reasonable and prudent alternative under which SDIP could move forward.

The NOAA Fisheries BiOp, issued in June 2009, concluded that CVP and SWP operations would jeopardize a number of anadromous species, in particular Chinook Salmon. NOAA Fisheries provided no reasonable and prudent alternative for SDIP. DWR initiated discussion with NOAA Fisheries in late 2009 to establish what actions could lead to a reasonable and prudent alternative under which SDIP could move forward; however, NOAA Fisheries stated an interest in holding off on further discussion until completion of an on-going multiyear South Delta Temporary Barriers Program predation study. The study field data collection has been completed, and data analysis is in progress. Data from the study will be useful in considering permanent barrier design options and operation strategies to minimize predation.

Any action regarding SDIP Stage 2 will require further study and public input. Stage 2 planning continued to be suspended in 2013.

For additional information about the Temporary Barriers Program, see Chapter 2, Delta Resources.

## Lower Yuba River Accord

The Yuba Accord's purpose is to resolve instream flow issues and protect and enhance lower Yuba River fisheries and local water supply reliability. The Yuba Accord provides revenues for local flood control and water supply projects; water to enhance SWP and CVP water supply reliability by offsetting Delta export reductions for protection and restoration of Delta fisheries; and improvements in statewide water supply management, including dry year supplies for participating SWP and CVP contractors.

The Yuba Accord is based on three agreements, as follows:

- a water purchase agreement with DWR;
- conjunctive use agreements with Yuba County Water Agency (Yuba) member units; and
- a fisheries agreement.

Three amendments were executed in 2009 and 2010 to address a technical refill issue and groundwater substitution pricing issues.

Amendment No. 4 was executed in 2012 between DWR and Yuba, and between DWR and 22 participating contractors, to streamline the process for addressing groundwater substitution pricing issues from 2012 through 2015. The parties pursued the negotiation process provided in Amendment No. 4, but did not agree on the price for groundwater substitution transfers in 2012.

The water purchase agreement transfers water to help offset Delta export reductions annually and provides dry-year transfer water for SWP and CVP contractors from surface and groundwater substitution sources.

In 2013, Yuba transferred a total of 177,274 af to DWR under the 2007 DWR-Yuba Water Purchase Agreement. A total of 60,000 af of Component 1 water was shared equally between DWR and Reclamation to help offset Delta export reductions to benefit fish. The Component 2, 3, and 4 dry-year water deliveries were 15,000 af, 37,544 af, and 64,730 af, respectively, and were shared equally among some of the SWP contractors and some of the CVP contractors.

The 2013 deliveries were comprised of 112,544 af of storage releases (surface flows) and 64,730 af of groundwater substitution water provided in 2012. An additional 17,518 af of Yuba releases was backed into

Lake Oroville during balanced conditions from October 1 through November 16, 2013, and is being held for release in 2014, provided it can be exported. From October 17 through December 31, 2013, Yuba released an additional 12,071 af of surface water that could not be backed into Lake Oroville because releases to the Yuba River were at minimum allowable flows during that period; those releases were therefore lost as transfer water.

For additional details about the Yuba Accord, see Chapter 9, Water Contracts and Deliveries.





## Chapter 8

# Water Supply

*Snow gauges in Alpine County.*

## Significant Events in 2013

Water year 2012–2013 proved to be a dry year, with less than average precipitation and mountain snowpack. The State received precipitation at 79 percent of average in water year 2012–2013 compared to 77 percent of average in water year 2011–2012. Though a below-average water year, the Northern Sierra 8-Station Precipitation Index (8SI) had the ninth wettest December and fourth driest February on record. More than 66 percent of the water year precipitation in the 8SI fell during November and December 2012. The statewide mountain snowpack peaked at 60 percent of its April 1 average in mid-March.

Statewide river runoff totaled 60 percent of average in the 2012–2013 water year. The Feather River runoff totaled 69 percent of average. Water year runoff totals for the Sacramento River Region (SRR), San Joaquin 4 Rivers (SJR), and Tulare Lake Region (TLR) were well below average at 67, 51, and 36 percent of average, respectively.

The Sacramento Valley Water Year Hydrologic Classification (Sacramento Valley 40-30-30 Index) and the San Joaquin Valley Water Year Hydrologic Classification (San Joaquin Valley 60-20-20 Index) were “dry” and “critical,” respectively, based on observed data for water year 2012–2013.

*Information in this chapter was contributed by the Division of Flood Management and the Division of Operations and Maintenance.*

The Department of Water Resources (DWR) monitors precipitation, estimates mountain snowpack, calculates river runoff, and operates storage facilities during each water year. The official California water year runs from October 1 through September 30. DWR continually updates hydrologic data and information. If your research requires more current data than was available at the time of publication, please consult the most recent edition of Bulletin 120, Bulletin 132, and/or contact DWR staff in the Hydrology and Flood Operations Office.

## California's Hydrology

DWR divides California into 10 hydrologic regions (see Figure 8-1). Each hydrologic region corresponds to the State's major water drainage basins. Annual precipitation, mountain snowpack, and runoff data is collected and analyzed for the hydrologic regions and used to determine water year type classifications and forecasts for the State's water supply outlook.

The State's precipitation is measured using two primary indices, the Northern Sierra 8-Station Precipitation Index (8SI) and the San Joaquin 5-Station Index. For more information, see the sidebar, Precipitation and Runoff Estimates.

Runoff estimates are determined for the Sacramento River Region (SRR), the San Joaquin 4 Rivers (SJR), and the Tulare Lake Region (TLR). For more information, see the sidebar, Precipitation and Runoff Estimates.

The Sacramento Valley Water Year Hydrologic Classification (Sacramento Valley 40-30-30 Index) and the San Joaquin Valley Water Year Hydrologic Classification (San Joaquin Valley 60-20-20 Index), are used to derive the water year classification for the Sacramento Valley and the San Joaquin Valley, respectively, and are used by various water agencies to formulate water supply decisions. For more information, see the sidebar, Water Supply Indices.

## Water Year 2012–2013

### Precipitation

California experienced below-average rainfall and mountain snowpack during water year 2012–2013. The State received precipitation at 79 percent of average in 2012–2013, compared to 77 percent of average in water year 2011–2012. Figure 8-1 presents water year precipitation for the various regions of the State. The 8SI finished the water year with 46.2 inches of precipitation, which was 92 percent of average. The statewide average snow water equivalent, based on snow sensors, reported for April 1, was 13.2 inches, or 47 percent of average. Historically, April 1 is the average annual date of peak snow accumulation. This water year, the statewide mountain snowpack peaked in mid-March at 17.1 inches.

Table 8-1 presents monthly precipitation totals for water year 2012–2013 at various gauges located throughout the State, listed north to south. Statewide, the wettest months were November and December. In contrast, January and February were dry. The greatest portion of precipitation for the north fell on two different 7-day periods with the first ending on December 5, 2012, and the second on December 27, 2012.

Eureka Woodley Island on the north coast of California received 34.8 inches of precipitation for a water year total that was 91 percent of average. Precipitation



**Figure 8-1 Statewide Precipitation by Hydrologic Region, 2012–2013 Water Year, as Percent of Average**

**Table 8-1 Water Year<sup>a</sup> Monthly Precipitation Totals at Various Locations in California, 2012–2013**

| Station <sup>b</sup>          | Monthly Precipitation (inches) |       |       |      |      |      |      |      |      |      |      |      |              |                      |      |      |  |
|-------------------------------|--------------------------------|-------|-------|------|------|------|------|------|------|------|------|------|--------------|----------------------|------|------|--|
|                               | Water Year 2012–2013           |       |       |      |      |      |      |      |      |      |      |      |              | Water Year 2013–2014 |      |      |  |
|                               | 2012                           |       |       |      |      |      | 2013 |      |      |      |      |      |              | WY<br>Total          | 2012 |      |  |
|                               | Oct                            | Nov   | Dec   | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct          | Nov                  | Dec  |      |  |
| Mount Shasta City             | 1.18                           | 10.71 | 10.82 | 0.98 | 1.55 | 3.46 | 0.94 | 1.06 | 0.81 | 0.11 | 0.02 | 1.80 | <b>33.44</b> | 0.79                 | 0.37 | 0.49 |  |
| percent of average            | 50                             | 233   | 184   | 15   | 28   | 79   | 33   | 62   | 76   | 44   | 6    | 288  | <b>93</b>    | 34                   | 8    | 8    |  |
| Eureka Woodley Island         | 2.72                           | 6.36  | 10.97 | 2.57 | 1.78 | 3.09 | 2.44 | 1.17 | 0.43 | 0.00 | 0.08 | 3.14 | <b>34.75</b> | 0.05                 | 1.29 | 0.56 |  |
| percent of average            | 91                             | 115   | 171   | 40   | 34   | 59   | 85   | 65   | 70   | 0    | 33   | 413  | <b>91</b>    | 2                    | 23   | 9    |  |
| Blue Canyon (DWR-2)           | 5.08                           | 17.76 | 19.46 | 1.88 | 1.15 | 5.94 | 1.71 | 2.03 | 3.54 | 0.00 | 0.04 | 0.00 | <b>58.59</b> | 1.18                 | 2.36 | 2.07 |  |
| percent of average            | 135                            | 225   | 186   | 15   | 12   | 70   | 34   | 75   | 402  | 0    | 11   | 0    | <b>93</b>    | 31                   | 30   | 20   |  |
| Sacramento WB City            | 1.28                           | 3.97  | 6.15  | 1.06 | 0.36 | 1.59 | 0.58 | 0.30 | 0.22 | 0.00 | 0.00 | 0.55 | <b>16.06</b> | 0.00                 | 0.82 | 0.38 |  |
| percent of average            | 139                            | 196   | 193   | 28   | 11   | 67   | 39   | 65   | 169  | 0    | 0    | 262  | <b>90</b>    | 0                    | 40   | 12   |  |
| San Francisco WB AP           | 1.47                           | 4.50  | 7.11  | 0.49 | 0.85 | 0.97 | 1.01 | 0.04 | 0.15 | 0.00 | 0.04 | 0.39 | <b>17.02</b> | 0.00                 | 0.91 | 0.35 |  |
| percent of average            | 139                            | 190   | 191   | 11   | 26   | 35   | 71   | 9    | 100  | 0    | 67   | 205  | <b>86</b>    | 0                    | 38   | 9    |  |
| Yosemite Headquarters         | 1.15                           | 4.90  | 10.49 | 1.10 | 0.37 | 3.18 | 1.58 | 1.07 | 0.12 | 0.00 | 0.00 | 0.87 | <b>24.83</b> | 0.65                 | 0.73 | 1.53 |  |
| percent of average            | 67                             | 116   | 159   | 16   | 6    | 64   | 49   | 76   | 21   | 0    | 0    | 140  | <b>68</b>    | 38                   | 17   | 23   |  |
| Fresno WB AP                  | 0.25                           | 1.11  | 2.03  | 0.58 | 0.89 | 0.65 | 0.09 | 0.07 | 0.00 | 0.00 | 0.00 | 0.01 | <b>5.68</b>  | 0.03                 | 0.54 | 0.15 |  |
| percent of average            | 52                             | 100   | 115   | 29   | 43   | 35   | 8    | 25   | 0    | 0    | 0    | 7    | <b>52</b>    | 6                    | 49   | 9    |  |
| Grant Grove                   | 1.23                           | 3.97  | 12.52 | 2.43 | 1.21 | 1.72 | 0.89 | 0.46 | 0.00 | 0.32 | 0.21 | 0.21 | <b>25.17</b> | 1.82                 | 0.29 | 0.92 |  |
| percent of average            | 63                             | 77    | 160   | 32   | 17   | 23   | 21   | 39   | 0    | 533  | 300  | 39   | <b>58</b>    | 93                   | 6    | 12   |  |
| Los Angeles WSO AP            | 0.15                           | 1.31  | 2.82  | 1.30 | 0.20 | 0.66 | 0.06 | 0.39 | 0.00 | 0.03 | 0.00 | 0.00 | <b>6.92</b>  | 0.02                 | 0.69 | 0.30 |  |
| percent of average            | 39                             | 93    | 134   | 48   | 7    | 35   | 7    | 279  | 0    | 300  | 0    | 0    | <b>54</b>    | 5                    | 49   | 14   |  |
| San Diego NWS Lindbergh Field | 0.70                           | 0.28  | 2.19  | 1.21 | 0.63 | 1.22 | 0.01 | 0.26 | 0.00 | 0.05 | 0.00 | 0.00 | <b>6.55</b>  | 0.25                 | 1.48 | 0.46 |  |
| percent of average            | 167                            | 25    | 115   | 59   | 33   | 76   | 1    | 124  | 0    | 250  | 0    | 0    | <b>63</b>    | 60                   | 131  | 24   |  |

<sup>a</sup> Water Year = October 1–September 30<sup>b</sup> AP = Airport; NWS = National Weather Service; WB = Weather Bureau; WSO = Weather Service Office

for the station was above normal for 3 months of the 2012–2013 water year. December accumulated the largest quantity of precipitation for the water year, with 11.0 inches (171 percent of average).

Blue Canyon experienced above-normal precipitation for 4 months of water year 2012–2013. The station totals for the water year were 58.6 inches and 93 percent of average. The month of December accumulated the largest precipitation and percent of normal for the water year—19.5 inches, which was 186 percent of average.

Areas of the Central Valley received above-normal precipitation for the months of

November and December. Precipitation totals during those months for Sacramento were 4.0 and 6.2 inches (196 and 193 percent of average) and for Fresno 1.1 and 2.0 inches (100 and 115 percent of average). For the water year, Sacramento received 90 percent of its annual precipitation average while Fresno received only 52 percent of its annual average, emphasizing the precipitation gradient from north to south.

In the San Joaquin and Tulare Lake watersheds, water year total precipitation was well below average. The largest amounts of precipitation fell in these watersheds during the months of November and December, which is similar to what transpired in Northern California. More than

## Precipitation and Runoff Estimates

### Precipitation

#### Northern Sierra 8-Station Precipitation Index (8SI)

In the northern Sierra Nevada, precipitation is indexed by averaging rain gauge totals at eight representative stations, creating what is known as the Northern Sierra 8-Station Precipitation Index. The index provides a representative sample of the major watersheds (upper Sacramento, Feather, Yuba, and American rivers) and serves as a wetness index for the Sacramento River hydrologic region.

The rain gauge stations are:

- |                       |                                |
|-----------------------|--------------------------------|
| (1) Mount Shasta City | (5) Brush Creek                |
| (2) Shasta Dam        | (6) Sierraville Ranger Station |
| (3) Mineral           | (7) Blue Canyon                |
| (4) Quincy            | (8) Pacific House              |

#### San Joaquin 5-Station Precipitation Index (5SI)

In the central Sierra Nevada, precipitation is indexed by averaging rain gauge totals at five representative stations, creating what is known as the San Joaquin 5-Station Precipitation Index. The index provides a representative sample of the major watersheds (Stanislaus, Tuolumne, Merced, and San Joaquin rivers) and serves as a wetness index for the San Joaquin River hydrologic region.

The rain gauge stations are:

- |                            |                               |                     |
|----------------------------|-------------------------------|---------------------|
| (1) Calaveras Big Trees    | (3) Yosemite Headquarters     | (5) Huntington Lake |
| (2) Hetch Hetchy Reservoir | (4) North Fork Ranger Station |                     |

### Runoff

Unimpaired runoff represents the natural water production in a river basin, unaltered by upstream diversions, storage, or export of water to or import of water from other basins.

#### Sacramento River Region (SRR)

SRR is the sum of unimpaired flow in million acre-feet (maf) at designated gauging stations:

- (1) Sacramento River above Bend Bridge
- (2) Feather River at Oroville (inflow to Lake Oroville)
- (3) Yuba River near Smartville
- (4) American River below Folsom Lake

#### San Joaquin 4 Rivers (SJR)

SJR is the sum of unimpaired flow in maf at designated gauging stations:

- (1) Stanislaus River below Goodwin Dam (inflow to New Melones Reservoir)
- (2) Tuolumne River below La Grange (inflow to New Don Pedro Reservoir)
- (3) Merced River below Merced Falls (inflow to Lake McClure)
- (4) San Joaquin River inflow to Millerton Lake

#### Tulare Lake Region (TLR)

TLR is the sum of unimpaired flow in maf at designated gauging stations:

- (1) Kings River below Pine Flat Reservoir
- (2) Kaweah River below Terminus Reservoir
- (3) Tule River below Lake Success
- (4) Kern River below Lake Isabella

## Water Supply Indices

### Sacramento Valley 40-30-30 Index

State Water Resources Control Board (SWRCB), Water Right Decision 1641 (D-1641) defines the Sacramento Valley Water Year Hydrologic Classification (Sacramento Valley 40-30-30 Index), a water supply forecasting tool used to derive the water year type for the Sacramento Valley. SWRCB first introduced the Sacramento Valley 40-30-30 Index in the 1991 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan), and continued using it with the 1995 Bay-Delta Plan. D-1641 implements portions of the 1995 Bay-Delta Plan with respect to the operation of the State Water Project and the Central Valley Project.

The Sacramento Valley 40-30-30 Index is used to determine the Sacramento Valley water year type for the purpose of implementing water quality objectives defined in D-1641. It also provides an estimate of the potential water supply originating in the basin from rainfall and snowmelt runoff, groundwater accretion, and reservoir carryover storage. The index incorporates seasonal differences in water contribution for the year and includes the prior year's conditions in order to establish a more reliable index of water availability. The 40-30-30 factors represent the percentage weight given to the following:

- (1) 40%—the current year's April through July Sacramento Valley unimpaired runoff;
- (2) 30%—the current year's October through March Sacramento Valley unimpaired runoff; and
- (3) 30%—the previous year's index with a cap of 10 million acre-feet (to account for required flood control reservoir releases during wet years).

The water year type is determined by the index value on a scale specific to the Sacramento Valley (as defined in D-1641).

| Classification | Index (million acre-feet)                      |
|----------------|--|
| Wet            | Equal to or greater than 9.2                   |
| Above Normal   | Greater than 7.8 and less than 9.2             |
| Below Normal   | Equal to or less than 7.8 and greater than 6.5 |
| Dry            | Equal to or less than 6.5 and greater than 5.4 |
| Critical       | Equal to or less than 5.4                      |

Water year type forecasts are made beginning in December. The Sacramento Valley 40-30-30 Index May 1 forecast (at the 50 percent exceedance level) determines the "official" water year type for implementing water quality and flow requirements contained in D-1641. The D-1641 objectives are conditioned by water year type and generally become less stringent during dryer years.

### San Joaquin Valley 60-20-20 Index

D-1641 uses a similar method to determine the water year type for the San Joaquin Valley. The San Joaquin Valley Water Year Hydrologic Classification (San Joaquin Valley 60-20-20 Index) uses (1) the current year's April through July San Joaquin Valley unimpaired runoff (60 percent); (2) the current year's October through March San Joaquin Valley unimpaired runoff (20 percent); and (3) the previous year's San Joaquin Valley 60-20-20 Index (20 percent, with a cap of 4 maf to account for required flood control reservoir releases during wet years).

The water year type is determined by the index value on a scale specific to the San Joaquin Valley (as defined in D-1641).

| Classification | Index (million acre-feet)                      |
|----------------|--|
| Wet            | Equal to or greater than 3.8                   |
| Above Normal   | Greater than 3.1 and less than 3.8             |
| Below Normal   | Equal to or less than 3.1 and greater than 2.5 |
| Dry            | Equal to or less than 2.5 and greater than 2.1 |
| Critical       | Equal to or less than 2.1                      |

The San Joaquin Valley 60-20-20 Index May 1 forecast (at the 75 percent exceedance level) determines the "official" water year type for D-1641 San Joaquin River Vernalis flow standards.

62 percent of the water year precipitation fell during these months for Yosemite Headquarters and Grant Grove. Water year precipitation totals at those two sites were below average with 68 and 58 percent of their respective annual averages.

Further south, the cities of Los Angeles and San Diego were also below average, totaling 54 and 63 percent of their annual averages for the water year, respectively. San Diego received 2.2 inches of precipitation in December, which is 115 percent of the monthly average and about 33 percent of the total precipitation falling during the 2012–2013 water year.

The monthly totals for the 8SI for the water year are presented in Table 8-2. Precipitation totaled 46.2 inches, which was 92 percent of average. November and December were wet, registering 13.0 and 17.2 inches, respectively, and 206 and 205 percent of the monthly average, respectively. The total accumulated precipitation from December 1 through February 28, typically the wettest period in the Sierra Nevada, only amounted to 20.5 inches. The 17.2 inches in December

ranked as the ninth wettest month on record for the index. January and February were extremely dry months and ranked as the sixth and fourth driest months on record for the index, respectively. January and February combined were the driest on record for this period.

Taking the entire water year into consideration, approximately 66 percent of the water year total precipitation fell during November and December. The precipitation in November and December was primarily the result of a series of atmospheric river events.

## Mountain Snowpack

The precipitation that fell during water year 2012–2013 resulted in a mountain snowpack well below average throughout the State's mountainous regions. Monthly statewide snowpack for the water year is shown in Table 8-3. Snow water equivalents shown in the table were obtained from daily snow sensor reports corresponding to the first day of each month. The statewide average snow water equivalent reported for April 1 was 13.2 inches or 47 percent of average. April 1 is typically the average annual date of peak snow accumulation. In 2013, however, mountain snowpack peaked during the second week of March at approximately 17.1 inches of snow water content.

## River Runoff

Statewide river runoff totaled 60 percent of average in the 2012–2013 water year. The monthly runoff totals for the SRR, the SJR, the TLR, and the Feather River are shown in Table 8-4. As shown, the water year runoff totals for all of these areas were well below average.

From a water supply perspective, the most closely monitored period is April through July. By the end of July, the April–July runoff was 47, 44, and 30 percent of average, for the three respective regions.

**Table 8-2 Northern Sierra 8-Station Precipitation Index for Water Year 2012–2013**

| Month    | Precipitation (inches) | Percent of Monthly Average |
|----------|------------------------|----------------------------|
| 2012     | October                | 2.50                       |
|          | November               | 13.00                      |
|          | December               | 17.20                      |
| January  | 1.40                   | 23                         |
| February | 0.80                   | 10                         |
| March    | 3.70                   | 54                         |
| 2013     | April                  | 2.00                       |
|          | May                    | 1.30                       |
|          | June                   | 1.70                       |
|          | July                   | 0.00                       |
|          | August                 | 0.00                       |
|          | September              | 1.50                       |
|          | <b>Total</b>           | <b>46.20</b>               |
|          |                        | <b>92</b>                  |

**Table 8-3 Statewide Mountain Snowpack for Water Year 2012–2013**

|      | Date        | Snow Water Equivalent (inches) | Percent of Average | Percent of April 1 Average <sup>a</sup> |
|------|-------------|--------------------------------|--------------------|---|
| 2012 | October 1   | 0.0                            | 0                  | 0                                       |
|      | November 1  | 0.8                            | 91                 | 3                                       |
|      | December 1  | 4.2                            | 91                 | 15                                      |
|      | January 1   | 14.0                           | 137                | 49                                      |
|      | February 1  | 15.2                           | 87                 | 54                                      |
|      | March 1     | 15.7                           | 64                 | 56                                      |
|      | April 1     | 13.2                           | 47                 | 47                                      |
|      | May 1       | 3.6                            | 17                 | 13                                      |
|      | June 1      | 0.1                            | 0                  | 0                                       |
|      | July 1      | 0.0                            | 0                  | 0                                       |
| 2013 | August 1    | 0.0                            | 0                  | 0                                       |
|      | September 1 | 0.0                            | 0                  | 0                                       |

<sup>a</sup> April 1 is the average date of peak statewide mountain snowpack. This table is based on snow pillow (a device for measuring mountain snowpack at automated reporting stations) data.

## Water Supply Indices

The Sacramento Valley Water Year Hydrologic Classification (Sacramento Valley 40-30-30 Index) and the San Joaquin Valley Water Year Hydrologic Classification (San Joaquin Valley 60-20-20 Index) were “dry” and “critical,” respectively, based on observed data for water year 2012–2013.

For more information, see the sidebar, Water Supply Indices.

## Water Year 2013–2014 October through December Water Conditions

The last three months of calendar year 2013 mark the beginning of a new water year, 2013–2014. October was a cool, dry month.

Statewide, the average precipitation for the month was 26.8 percent of the long-term average based on the California Data Exchange Center gauges. November was warm and dry with below normal precipitation. The 8SI registered 1.50 inches compared to an average value of 6.3 inches. December was another dry month. The 8SI registered 0.8 inches compared to an average of 8.4 inches. Statewide, the October through December precipitation was about 27 percent of normal.

At the end of December, water year runoff totals were 33 percent of average for the SRR, 16 percent of average for the SJR, and 29 percent of average for the TLR.

**Table 8-4 Unimpaired Runoff for Water Year 2012–2013 (million acre-feet)**

|                      | Oct  | Nov  | Dec  | Jan  | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | WY    |
|----------------------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| SRR runoff           | 0.38 | 1.14 | 3.61 | 1.14 | 0.91 | 1.35 | 1.34 | 0.77 | 0.54 | 0.36 | 0.32 | 0.33 | 12.19 |
| percent of average   | 75   | 129  | 211  | 45   | 37   | 47   | 56   | 34   | 43   | 61   | 78   | 83   | 67    |
| SJR runoff           | 0.02 | 0.09 | 0.48 | 0.20 | 0.16 | 0.37 | 0.68 | 0.66 | 0.26 | 0.07 | 0.04 | 0.01 | 3.05  |
| percent of average   | 39   | 69   | 200  | 46   | 35   | 59   | 80   | 46   | 24   | 16   | 29   | 25   | 51    |
| TLR runoff           | 0.02 | 0.04 | 0.09 | 0.08 | 0.07 | 0.13 | 0.23 | 0.24 | 0.10 | 0.04 | 0.02 | 0.02 | 1.09  |
| percent of average   | 44   | 52   | 86   | 47   | 38   | 47   | 59   | 33   | 16   | 15   | 23   | 30   | 36    |
| Feather River runoff | 0.07 | 0.28 | 0.95 | 0.27 | 0.23 | 0.42 | 0.35 | 0.17 | 0.14 | 0.09 | 0.08 | 0.07 | 3.13  |
| percent of average   | 65   | 137  | 243  | 47   | 41   | 58   | 54   | 28   | 42   | 61   | 78   | 79   | 69    |
| Statewide runoff     |      |      |      |      |      |      |      |      |      |      |      |      |       |
| percent of average   | 64   | 105  | 195  | 40   | 31   | 45   | 62   | 38   | 30   | 35   | 58   | 72   | 60    |

SRR: Sacramento River Region

Sacramento River above Bend Bridge, Feather River at Oroville, Yuba River near Smartville, American River below Folsom Lake

SJR: San Joaquin 4 Rivers

Stanislaus River below Goodwin Dam, Tuolumne River below La Grange, Merced River below Merced Falls, San Joaquin River below Millerton Lake

TLR: Tulare Lake Region

Kings River below Pine Flat Reservoir, Kaweah River below Terminus Reservoir, Tule River below Lake Success, Kern River below Lake Isabella

WY: Water Year (October 1–September 30)

## Storage

### Statewide Storage

Monthly storage totals for the major Sierra reservoirs are shown in Table 8-5. Water year 2012–2013 began at 95 percent of average reservoir storage following a dry 2011–2012 water year. The percent of average storage increased through December, which ended at 110 percent of average. Then, the average decreased each month through July, which ended with 79 percent of average. August and September had the same percent of average.

### State Water Project Storage

The State Water Project (SWP) operates a complex system of dams, canals, and reservoirs to collect and store water for future deliveries. Lake Oroville is the first of two primary SWP conservation facilities. Lake Oroville inflow comes from tributaries of the Feather River.

The San Luis Reservoir is the second primary SWP conservation facility. This Central California joint-use facility derives its inflow from pumping at the Gianelli Pumping-Generating Plant. San Luis is an off-stream storage reservoir. Most of the water is pumped into the reservoir from late fall to early spring. This water is temporarily stored, then released into the California

**Table 8-5 Monthly Reservoir Storage for Water Year 2012–2013 (thousand acre-feet)**

| Reservoir          | Oct   | Nov   | Dec   | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   |
|--------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Shasta             | 2,466 | 2,564 | 3,318 | 3,474 | 3,611 | 3,711 | 3,788 | 3,363 | 2,938 | 2,434 | 2,101 | 1,906 |
| percent of average | 92    | 95    | 117   | 113   | 109   | 102   | 97    | 86    | 81    | 75    | 73    | 70    |
| Oroville           | 1,826 | 1,862 | 2,525 | 2,692 | 2,848 | 2,982 | 3,040 | 2,812 | 2,558 | 2,144 | 1,783 | 1,633 |
| percent of average | 86    | 87    | 116   | 116   | 116   | 111   | 106   | 94    | 89    | 83    | 77    | 75    |
| Folsom             | 396   | 404   | 584   | 566   | 552   | 601   | 682   | 734   | 665   | 525   | 429   | 361   |
| percent of average | 80    | 86    | 123   | 112   | 102   | 96    | 93    | 89    | 82    | 76    | 70    | 65    |
| San Luis           | 674   | 807   | 1,098 | 1,212 | 1,221 | 1,299 | 1,110 | 785   | 425   | 319   | 465   | 504   |
| percent of average | 62    | 66    | 79    | 75    | 70    | 70    | 61    | 49    | 33    | 32    | 54    | 53    |
| Pardee             | 181   | 186   | 180   | 174   | 166   | 171   | 184   | 192   | 197   | 195   | 195   | 190   |
| percent of average | 105   | 107   | 102   | 97    | 92    | 94    | 100   | 101   | 102   | 103   | 106   | 105   |
| New Melones        | 1,477 | 1,503 | 1,594 | 1,636 | 1,600 | 1,554 | 1,457 | 1,334 | 1,253 | 1,159 | 1,087 | 1,047 |
| percent of average | 110   | 111   | 115   | 115   | 109   | 103   | 97    | 88    | 82    | 79    | 78    | 78    |
| Don Pedro          | 1,184 | 1,190 | 1,327 | 1,373 | 1,399 | 1,408 | 1,471 | 1,473 | 1,390 | 1,253 | 1,135 | 1,077 |
| percent of average | 90    | 90    | 99    | 99    | 97    | 95    | 99    | 95    | 86    | 81    | 79    | 79    |
| Millerton          | 280   | 263   | 298   | 312   | 325   | 316   | 330   | 403   | 405   | 363   | 304   | 317   |
| percent of average | 143   | 120   | 110   | 94    | 95    | 86    | 90    | 100   | 97    | 111   | 129   | 151   |
| Pine Flat          | 202   | 214   | 257   | 293   | 324   | 363   | 435   | 484   | 358   | 189   | 153   | 154   |
| percent of average | 59    | 58    | 63    | 62    | 61    | 64    | 71    | 67    | 52    | 37    | 40    | 46    |
| Kaweah             | 12    | 14    | 18    | 26    | 27    | 46    | 78    | 96    | 58    | 27    | 19    | 14    |
| percent of average | 106   | 109   | 117   | 126   | 109   | 114   | 102   | 80    | 55    | 53    | 100   | 112   |
| Success            | 5     | 5     | 10    | 16    | 21    | 26    | 29    | 30    | 28    | 22    | 6     | 5     |
| percent of average | 58    | 53    | 82    | 92    | 85    | 79    | 66    | 55    | 56    | 64    | 32    | 40    |
| Isabella           | 85    | 84    | 84    | 83    | 82    | 87    | 96    | 106   | 86    | 71    | 62    | 56    |
| percent of average | 52    | 54    | 53    | 48    | 45    | 44    | 42    | 35    | 28    | 26    | 29    | 30    |
| Statewide          |       |       |       |       |       |       |       |       |       |       |       |       |
| percent of average | 95    | 97    | 110   | 105   | 101   | 98    | 96    | 88    | 82    | 79    | 79    | 79    |

Aqueduct to meet SWP water contractor peaking demands in the summer months. The remaining SWP dams and reservoirs regulate the stored water supply with delivery patterns that are designed to fit local water demands.

### 2013 Storage Totals in Major SWP Reservoirs

End-of-year storage on December 31, 2013, in major SWP reservoirs and the State's share of joint-use reservoirs was 2.2 million acre-feet (maf) or 41 percent of maximum storage, compared to 2.3 maf or 44 percent of maximum storage at the end of 2012. The average end-of-month total storage in major SWP reservoirs for 2013 was 3.1 maf.

### Lake Oroville

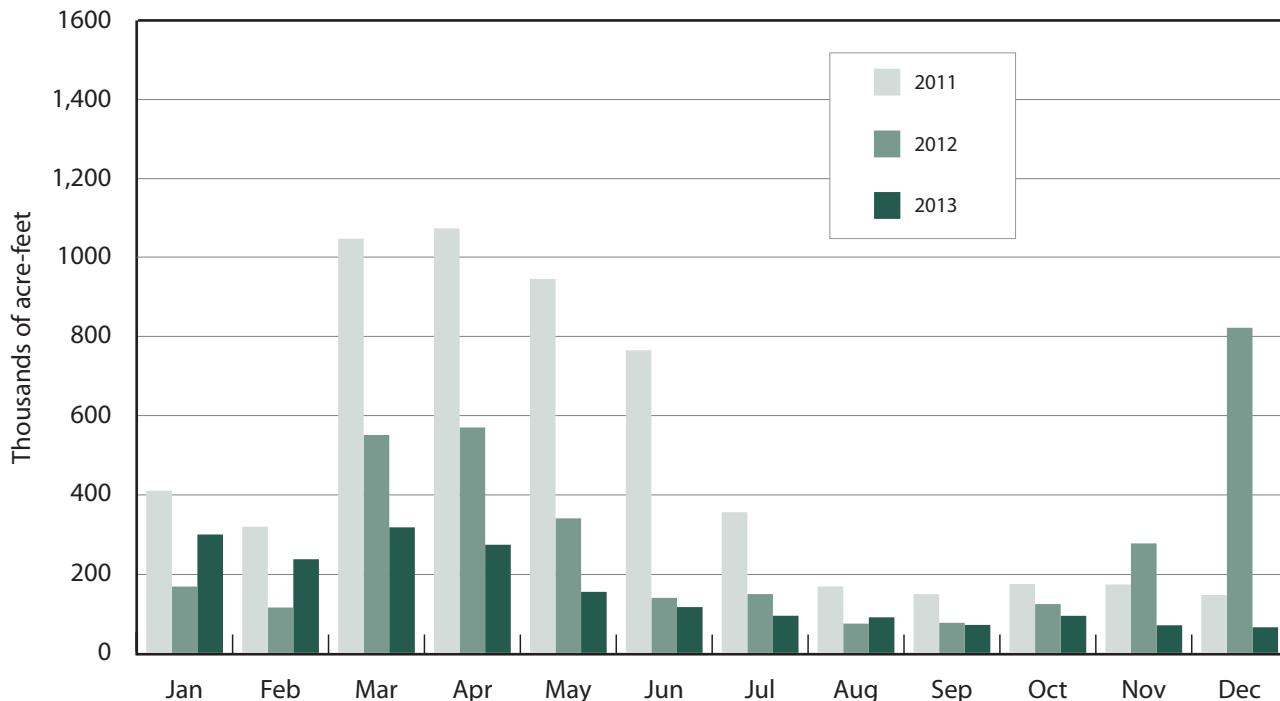
Lake Oroville has a maximum water storage capacity of 3,537,580 acre-feet (af). Runoff from the upper Feather River drainage is collected and stored in this reservoir and released to the Sacramento-San Joaquin

Delta through Oroville Dam, Thermalito Diversion Dam, and Thermalito Afterbay.

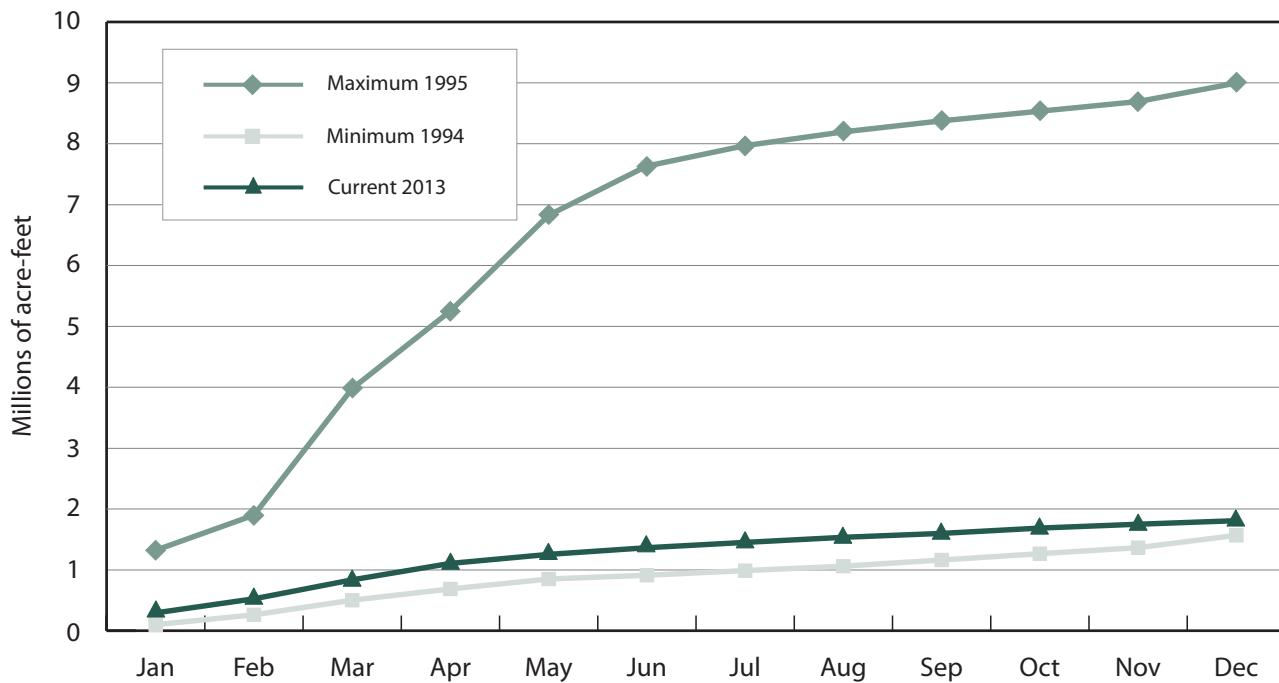
**2013 Inflow.** Lake Oroville inflow for 2013 totaled about 1.8 maf, which was 48 percent of the average (3.79 maf) over the last 30 years. Maximum daily inflow occurred on March 21 at 19,694 af. Minimum daily inflow occurred on December 10 at 170 af. Peak monthly total inflow occurred in March at 311,607 af, 17 percent of the 2013 total. The maximum total in the last 30 years (1984–2013) was in 1995 at 8,996,242 af. The minimum total for the same period was in 1994 at 1,566,352 af.

Figure 8-2 shows monthly Lake Oroville inflow for 2011, 2012, and 2013. Total Lake Oroville inflow for 2013 was 1,805,113 af.

Figure 8-3 shows historical (over the last 30 years) maximum and minimum cumulative Lake Oroville inflow (1995 and 1994, respectively) and the current cumulative inflow for 2013.



**Figure 8-2 Monthly Inflow into Lake Oroville from the Feather River, 2011–2013**



**Figure 8-3 Lake Oroville Cumulative Inflow over the Last 30 Years—Current and Historical Maximum and Minimum**

**2013 Storage.** Minimum storage occurred on December 31 at 1,286,039 af, 36 percent of lake capacity. Maximum storage occurred on April 23 at 3,111,046 af, 88 percent of lake capacity. End-of-year Lake Oroville storage was 1,286,039 af. Figure 8-4 shows storage in Lake Oroville for 2012 and 2013.

### 2013 San Luis Reservoir Operations

San Luis Reservoir is operated jointly by DWR and the Bureau of Reclamation pursuant to operating procedures adopted in June 1981. San Luis Reservoir has a normal operating capacity of 2,027,840 af. The SWP share of this capacity is 1,062,183 af.

San Luis Reservoir reached its maximum storage on April 1 at 1,299,152 af, 64 percent of its normal maximum operating capacity. At the beginning of 2013, San Luis Reservoir contained 1,098,379 af, 54 percent of its capacity. The SWP storage share was

426,312 af. The highest end-of-month SWP share of water storage occurred on March 31 at 520,433 af. Figure 8-5 shows SWP shares of storage and total storage in San Luis Reservoir for 2012 and 2013.

### 2013 Lake del Valle Operations

Lake del Valle, located off the South Bay Aqueduct, functions primarily as a storage facility for water delivery to Santa Clara and Alameda counties. At the beginning of 2013, Lake del Valle held 35,308 af, which was about 46 percent of its maximum capacity of 77,111 af. Its highest storage occurred on May 27 at 40,511 af. Its lowest storage occurred on December 29 at 29,694 af.

On December 31 storage in Lake del Valle was 29,712 af, 39 percent of its maximum capacity. There was 1,431 af of natural inflow into Lake del Valle, and 6,319 af of inflow from the South Bay Aqueduct. There were

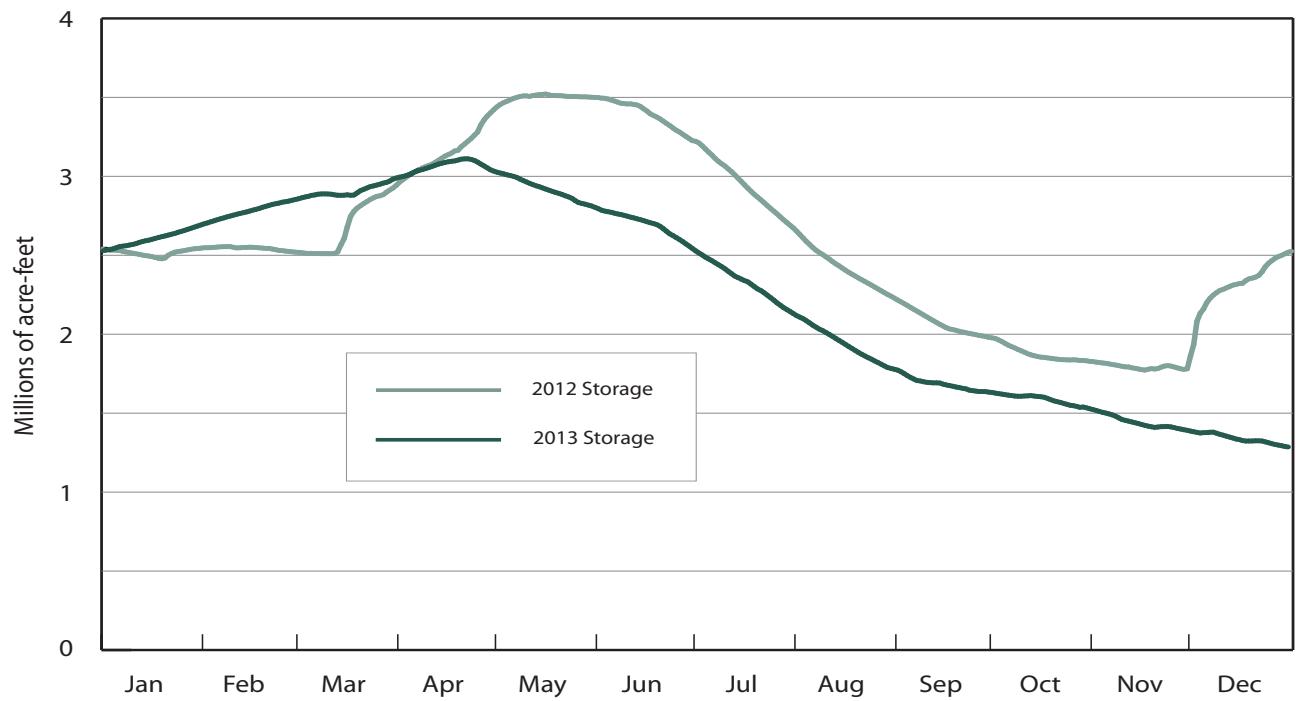


Figure 8-4 Storage in Lake Oroville, 2012 and 2013

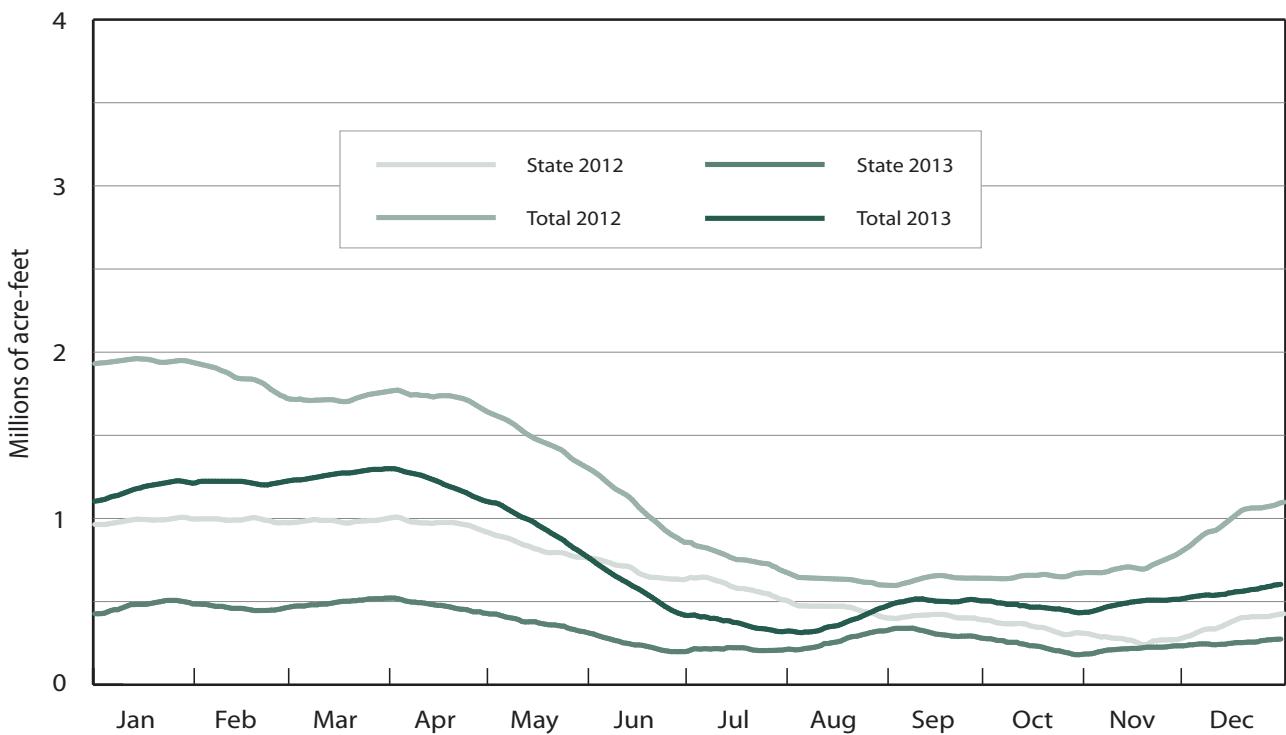


Figure 8-5 Daily Storage in San Luis Reservoir, 2012 and 2013

no releases to Arroyo Valle, and releases for 2013 to the South Bay Aqueduct from Lake del Valle totaled 10,868 af.

### 2013 Southern Reservoir Operations

During normal operating conditions, DWR maintains its four southern reservoirs—Pyramid, Castaic, Silverwood, and Perris—at or near full operating capacity to ensure uninterrupted delivery of water to Southern California SWP water contractors.

At the beginning of 2013, these reservoirs held 598,653 af, which is 87 percent of their combined normal maximum operating capacity of 689,021 af. At the end of 2013, the reservoirs held 597,785 af, 87 percent of combined normal maximum operating capacity.

## Diversions from the Delta

The SWP diverts water from the Sacramento-San Joaquin Delta, through the Barker Slough and Banks pumping plants, for delivery to SWP water contractors' storage facilities. The SWP diverts water from Barker Slough Pumping Plant to the North Bay Aqueduct. Water is delivered from Banks Pumping Plant to the South Bay Area through the South Bay Aqueduct, and to the San Joaquin Valley, Central Coastal, and Southern California areas through the California Aqueduct. The Central Valley Project (CVP) diverts water to similar areas from the Delta through Jones Pumping Plant and Contra Costa Pumping Plant.

In 2013, the North Bay Aqueduct received 49,557 af of water from the Barker Slough Pumping Plant.

Figure 8-6 shows the amounts of water pumped each month for 2013 at Banks Pumping Plant, totaling 1,814,837 af. Of this amount, the SWP diverted 1,757,573 af. There was 19,311 af pumped for the Cross Valley Canal and 37,953 af of wheeling

for the CVP. All of the Cross Valley Canal and CVP pumping at Banks Pumping Plant occurred in April, July, August, and September.

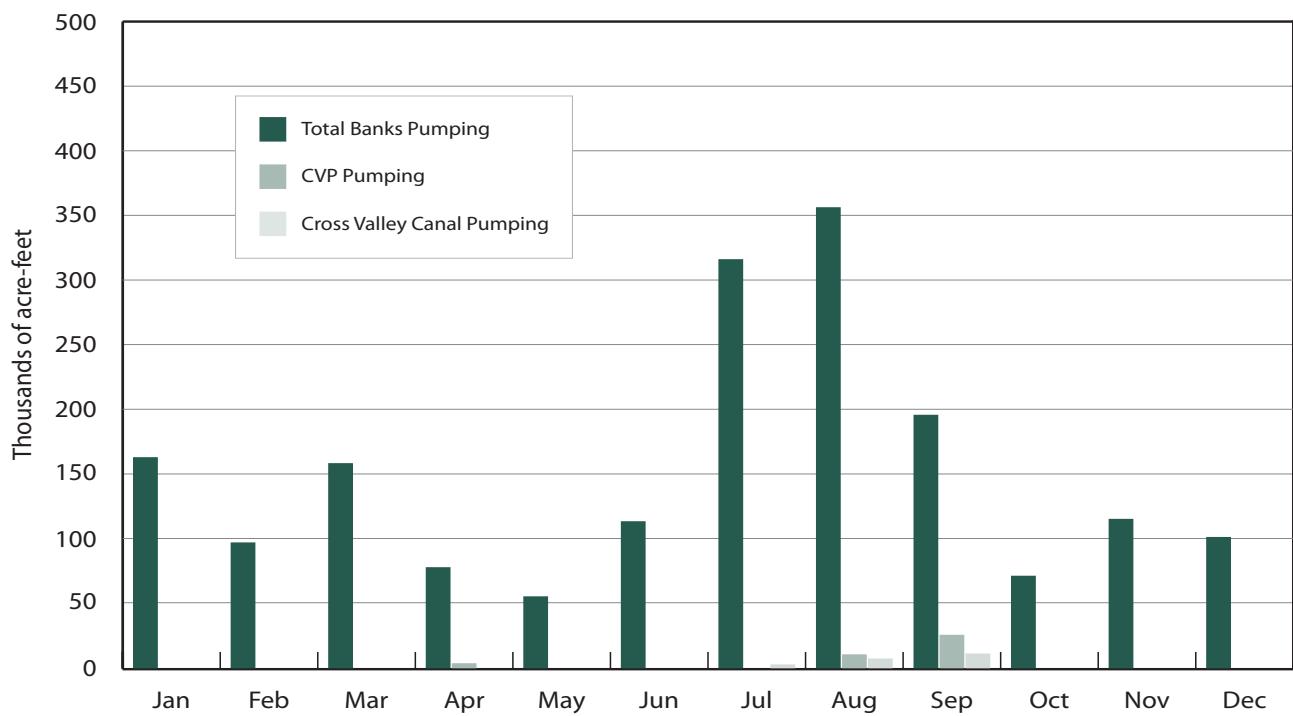
The CVP diverted 1,492,615 af at Jones Pumping Plant and 154,643 af at Contra Costa Pumping Plant in 2013.

The combined Delta exports include all of these plants. Figure 8-7 shows the monthly amounts of water diverted from the Delta in 2013 by the SWP and CVP. Maximum daily Delta exports occurred on August 25 at 23,631 af. Combined SWP and CVP monthly Delta exports in 2013 varied from a low of 105,901 af in April, to a high of 608,691 af in August. Delta exports totaled approximately 3.46 maf in 2013.

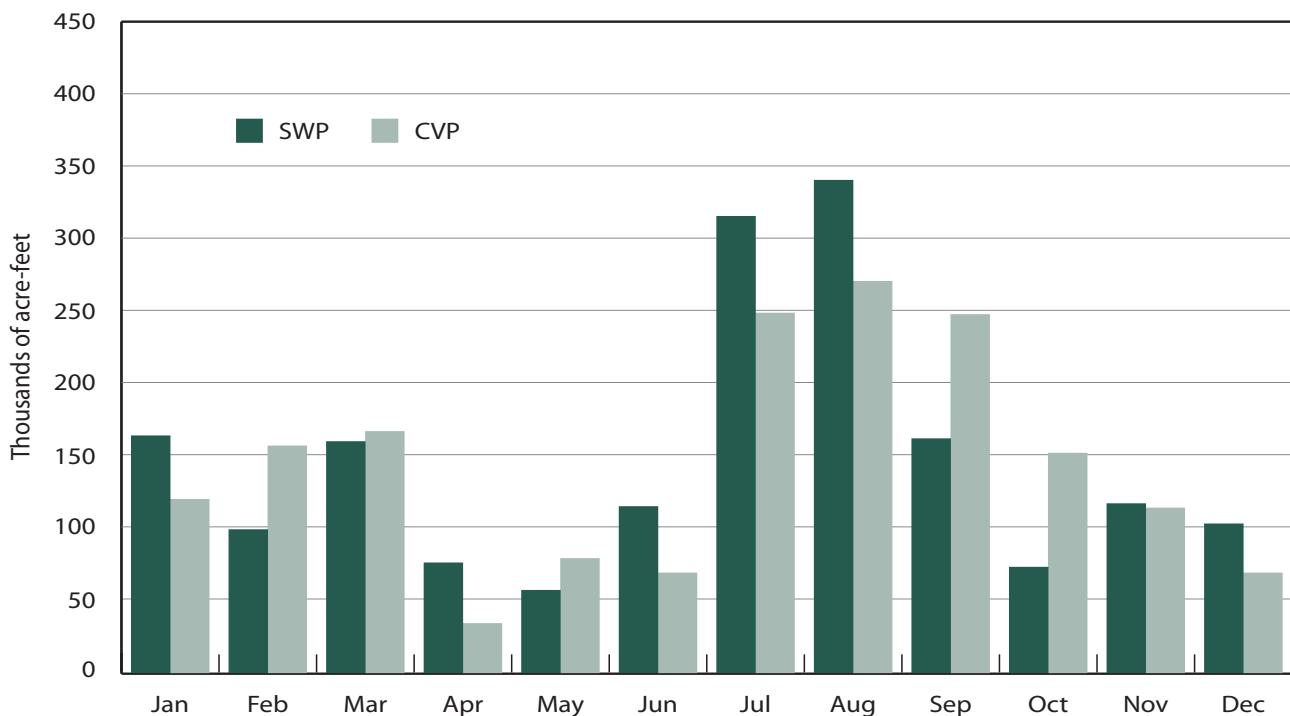
Figure 8-8 shows monthly total amounts pumped at Dos Amigos Pumping Plant for 2013. Dos Amigos Pumping Plant diverts water from O'Neill Forebay to the California Aqueduct. Dos Amigos pumped the largest amount in July 2013 at 404,274 af.

Figure 8-9 shows the amount of water pumped each month in 2013 at Edmonston Pumping Plant. Water pumped through the Edmonston Pumping Plant for delivery to Southern California totaled 1,216,034 af.

Additional water supply information can be found on DWR's website.



**Figure 8-6 Water Pumped at Banks Pumping Plant, 2013**



**Figure 8-7 Sacramento-San Joaquin Delta Exports by State Water Project and Central Valley Project, 2013**

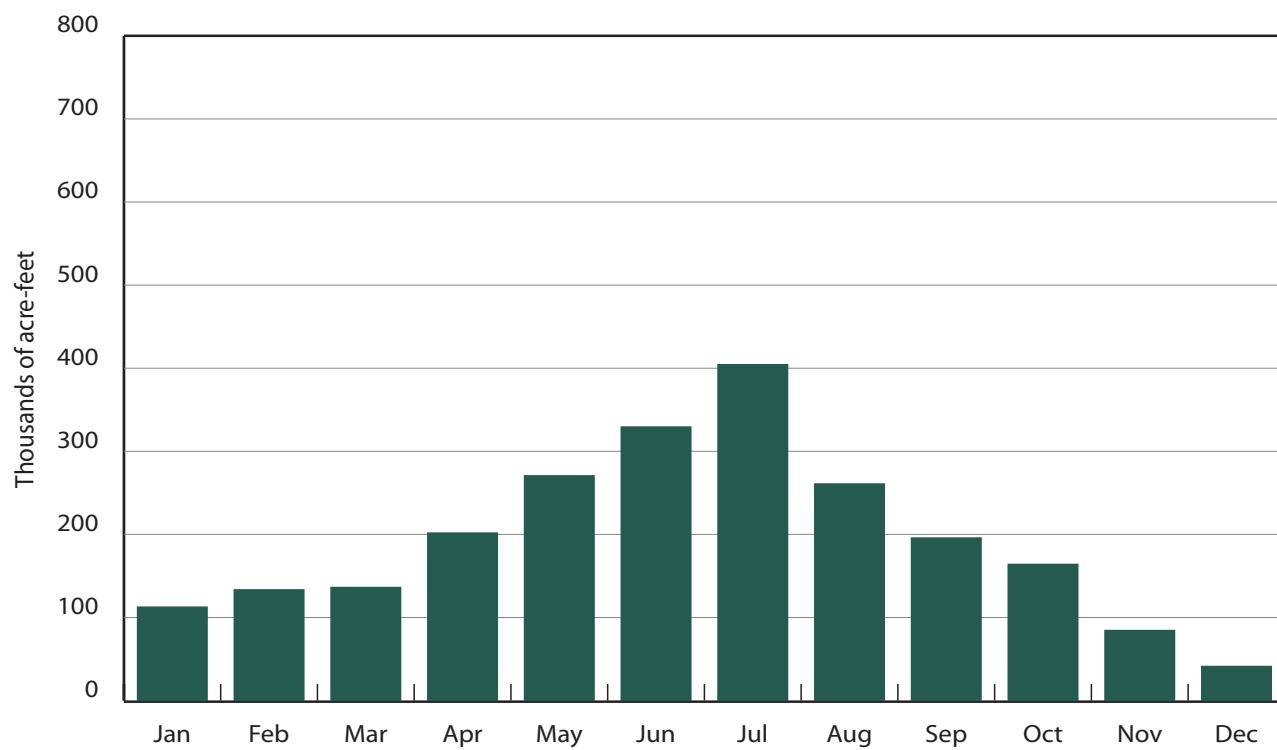


Figure 8-8 Water Pumped at Dos Amigos Pumping Plant, 2013

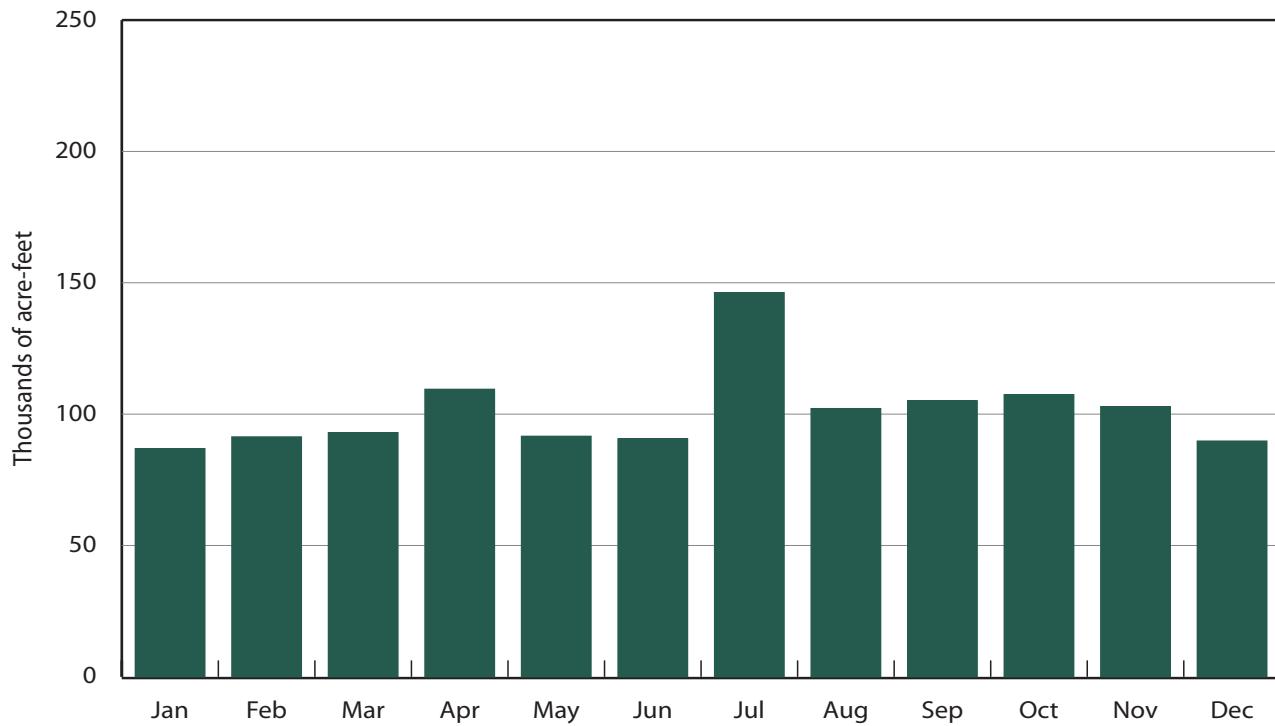


Figure 8-9 Water Pumped at Edmonston Pumping Plant, 2013



## Chapter 9

# Water Contracts and Deliveries

*View of Pyramid Lake.*

## Significant Events in 2013

In 2013, a total of 3,371,000 acre-feet (af) of State Water Project (SWP) and non-SWP water was delivered to 29 long-term SWP water contractors and 23 other agencies. The portion delivered to SWP water contractors was 2,108,416 af; the portion to non-SWP agencies was 1,262,584 af.

The hydrologic conditions in the Sacramento and San Joaquin river watersheds were classified as “dry” and “critically dry.” As a result, DWR approved only 35 percent of the SWP water contractors’ Table A allocation requests.

One SWP water contractor stored 5,933 af of water in a banking program and six SWP water contractors recovered approximately 170,000 af of water from storage in 2013.

*Information for this chapter was provided by the State Water Project Analysis Office.*

The long-term water supply contracts between the Department of Water Resources (DWR) and 29 public agencies and local water districts provide for water service from the State Water Project (SWP) and are the basis for the SWP's construction and ongoing operations. The State provides SWP financing, capital construction, improvements, and all operations and maintenance of SWP facilities, and the agencies and local districts have contractually agreed to repay all associated costs.

The water supply contracts also set forth the maximum amount of water a contractor may request each year from the SWP, and these water amounts are written within the contracts in a list format known as Table A. "Table A" or "Table A water" represents a portion or all of the annual Table A requested by SWP water contractors and approved for delivery by DWR based on various factors including hydrologic conditions, current reservoir storage, and combined requests from the SWP water contractors. Under certain conditions, DWR is not able to deliver the quantity of water requested by contractors. In these years, a proportional amount is allocated and delivered according to the long-term water supply contracts by prorating the amount in proportion to each SWP water contractor's annual Table A amount. Table A amounts may also be used as a factor to allocate other available water supplies to each contractor. Approved Table A amounts may also be referred to in this chapter as "approved amounts," "approved water," or "allocated water."

The long-term water supply contracts are amended as needed.

DWR also enters into agreements with SWP water contractors and other agencies, which may be amended periodically, to convey SWP and non-SWP water through the California Aqueduct and to approve the construction, operation, and maintenance of SWP facilities and turnouts/turn-ins. These agreements are also listed in this chapter.

The State Water Project Analysis Office (SWPAO) developed a numbering system for contracts, amendments, and agreements executed by DWR. These numbers, referred to as SWPAO numbers, are designated in Chapter 9 text as "SWPAO #XXXXX" and are located in parentheses after each contract, amendment, or agreement description. These numbers can be used as an identifier for anyone who contacts DWR staff for more detailed information on a particular document.

## Amendments to Long-term SWP Water Supply Contracts

All the original long-term water supply contracts signed by DWR, public agencies, and local water districts have been previously amended to incorporate mutually desired changes. Most amendments fall under the following general categories:

- (1) permanent transfers of Table A amounts from one SWP water contractor to another;
- (2) allocation of costs and benefits for the addition or enlargement of SWP facilities;
- (3) purchase of excess capacity in the California Aqueduct; and
- (4) provisions to implement Monterey Agreement principles.

## State Water Project Long-term Water Supply Contracts

The first water supply contract was signed with The Metropolitan Water District of Southern California (Metropolitan) on November 4, 1960. The contract was negotiated by the Department of Water Resources (DWR) and Metropolitan according to terms of the contracting principles for water service contracts announced by the Governor on January 20, 1960.

The Metropolitan contract became the prototype for all long-term water supply contracts. By the end of 1967, 31 agencies had contracted for water. In addition, a water supply contract was executed with the City of West Covina in December 1963, but it was terminated in August 1965; the city's Table A amount was transferred to Metropolitan through an amendment to the district's long-term contract with DWR. Long-term contracts with Hacienda Water District and Devil's Den Water District were also terminated when those districts transferred their Table A amounts, through contract amendments, to Tulare Lake Basin Water Storage District (1981) and Castaic Lake Water Agency (1992), respectively. Today the State Water Project (SWP) has long-term water supply contracts with 29 agencies. Those contracts have been amended periodically and as needed to incorporate mutually agreed upon modifications.

All water contracts signed in the 1960s included an estimate of the date water would initially be delivered and a schedule of the amount of water the agency could expect to be delivered annually (annual Table A amounts). That amount was designed to increase gradually until the maximum amount of annual Table A was reached. The total combined maximum annual Table A amount for all water contracting agencies was initially 4,230,000 acre-feet (af), assuming full development of the SWP.

The contracts were executed for 75 years or until all bonds sold as part of the California Water Resources Development Bond Act were repaid, whichever period was longer. As a result of amendments to contracts in the 1990s, the current combined maximum annual Table A amount totals 4,172,786 af, and the contracts are in effect for the longest of the following periods: (1) the project repayment period, which extends to 2035; (2) 75 years from the date of the contract; or (3) the period ending with the latest maturity date of any bond used to finance the construction costs of project facilities.

## 2013 Amendments to Long-term Water Supply Contracts

### *Settlement with Four North-of-Delta Contractors*

DWR executed Amendment No. 21 to the water supply contract between the County of Butte (Butte) and DWR on December 31, 2013. The amendment incorporates provisions in the *Solano County Water Agency et al., v. DWR*

Settlement Agreement, Sacramento County Superior Court Case No. 34-2008-00016338 CU-BC-GDS, dated December 31, 2013, and provides for future allocations for Butte to lease some of its SWP supply. (SWPAO #13024)

DWR executed Amendment No. 20 to the water supply contract between Solano County Water Agency (Solano) and DWR on December 31, 2013. The amendment

incorporates provisions in the *Solano County Water Agency et al., v. DWR Settlement Agreement*, Sacramento County Superior Court Case No. 34-2008-00016338 CU-BC-GDS, dated December 31, 2013, including allocations and provides for future allocations for Solano and an Advanced Table A program. (SWPAO #13025)

DWR executed Amendment No. 24 to the water supply contract between Napa County Flood Control and Water Conservation District (Napa) and DWR on December 31, 2013. The amendment incorporates provisions in the *Solano County Water Agency et al., v. DWR Settlement Agreement*, Sacramento County Superior Court Case No. 34-2008-00016338 CU-BC-GDS, dated December 31, 2013, and provides for future allocations for Napa and an Advanced Table A program. (SWPAO #13026)

DWR executed Amendment No. 9 to the water supply contract between the City of Yuba City (Yuba) and DWR on December 31, 2013. The amendment incorporates provisions in the *Solano County Water Agency et al., v. DWR Settlement Agreement*, Sacramento County Superior Court Case No. 34-2008-00016338 CU-BC-GDS, dated December 31, 2013, and provides for future allocations for Yuba and an Advanced Table A program. (SWPAO #13027)

### ***Decrease in Table A Amount***

DWR executed Amendment No. 20 to the water supply contract between Butte and DWR on September 11, 2013. The amendment provides for the reduction of Butte's Table A amounts retroactively for 2010 and 2011 to 1,731 acre-feet (af) and 2,548 af, respectively. (SWPAO #12018)

### ***Permanent Transfer of Table A Amounts***

DWR executed Amendment No. 27 to the water supply contract between Dudley Ridge Water District (Dudley Ridge) and DWR on August 21, 2013. The amendment

provides for the permanent transfer of 1,993 af to decrease Dudley Ridge's annual Table A amount effective January 1, 2014. (SWPAO #13006)

DWR executed Amendment No. 35 to the water supply contract between Tulare Lake Basin Water Storage District (Tulare) and DWR on August 21, 2013. The amendment provides for the permanent transfer of 1,451 af to decrease Tulare's annual Table A amount effective January 1, 2014. (SWPAO #13007)

DWR executed Amendment No. 23 to the water supply contract between Antelope Valley-East Kern Water Agency (AVEK) and DWR on August 21, 2013. The amendment provides for the permanent transfer of 1,993 af to increase AVEK's annual Table A amount effective January 1, 2014. (SWPAO #13008)

DWR executed Amendment No. 24 to the water supply contract between AVEK and DWR on August 21, 2013. The amendment provides for the permanent transfer of 1,451 af to increase AVEK's annual Table A amount effective January 1, 2014. (SWPAO #13009)

### **Monterey Amendments**

The Monterey Amendments increase the reliability of existing water supplies, and increase water management flexibility, providing more tools for local water agencies to maximize use of existing facilities.

The Monterey Amendments include changes in allocation of Table A water, the transfer of Table A amounts and land, financial restructuring, and increased operational flexibility. The Monterey Amendments are discussed in detail in Chapter 1, Summary of Significant Events, Bulletin 132-95, found on the DWR website.

Plumas County Flood Control and Water Conservation District (Plumas) and Empire West Side Irrigation District (Empire) remain the only long-term SWP water contractors who have not signed the Monterey Amendments.

In accordance with the terms of the May 5, 2003, Monterey Settlement Agreement, the SWP continued to operate pursuant to the Monterey Amendments while the new environmental impact report (EIR) was being prepared. The draft EIR was released in October 2007 and is available on DWR's website. The final EIR was released in February 2010, and a notice of determination to proceed with the project was filed in June 2010. DWR continued to operate the SWP under the existing Monterey Amendments pursuant to the SWP long-term water supply contracts, including the Kern Water Bank transfer, and under the settlement agreement entered in the *Planning and Conservation League v. DWR* lawsuit. DWR was challenged by two groups of plaintiffs on issues relating to the adequacy of the EIR and the validity of the Monterey Amendments. The cases are currently being heard by the trial court. Final resolution of the issues is likely to take a number of years.

The settlement agreement is discussed in detail in Bulletin 132-04, Chapter 9, Water Contracts and Deliveries, available on DWR's website.

See Chapter 6, Legislation and Litigation, for the current status of the Monterey Amendment litigation.

## Miscellaneous Agreements with Long-term SWP Water Contractors

### 2013 Water Conveyance and Exchange Agreements

Water conveyance and exchange agreements that were executed or pending execution with long-term SWP water contractors during 2013 are described below.

#### Castaic Lake Water Agency

Castaic Lake Water Agency (Castaic Lake) entered into two separate change in point of delivery agreements to facilitate the exchange of Castaic Lake's SWP supplies. In 2007, Castaic Lake and Buena Vista Water Storage District (Buena Vista) entered into an agreement which allowed for Castaic Lake to acquire up to 11,000 af per year of high flow Kern River water from Buena Vista and store the water in the Rosedale-Rio Bravo Water Storage District (Rosedale-Rio Bravo) Groundwater Banking Program. Castaic Lake has stored in excess of 33,000 af of its Buena Vista water in Rosedale-Rio Bravo as follows:

- (1) A change in point of delivery agreement among DWR, Castaic Lake, and San Luis Water District (San Luis), a Bureau of Reclamation (Reclamation) contractor, executed August 13, 2013, approved the delivery of up to 11,000 af of Castaic Lake's approved SWP supplies to San Luis. In exchange, a like amount of Castaic Lake's Buena Vista water will be treated as Castaic Lake's SWP supplies in Rosedale-Rio Bravo for later use only within Castaic Lake's service area. The agreement terminates on June 30, 2014. During 2013, a total of 6,000 af of Castaic Lake's Table A water was delivered to San Luis. (SWPAO #13017)
- (2) A change in point of delivery agreement among DWR, Castaic Lake, and Kern County Water Agency (Kern) was executed September 25, 2013, and

approved the delivery of 22,000 af of Castaic Lake's approved SWP supplies to Kern. In exchange, a like amount of Castaic Lake's Buena Vista water will be treated as Castaic Lake's SWP supplies in Rosedale-Rio Bravo for later use only within Castaic Lake's service area. The agreement terminates on December 31, 2014. During 2013, a total of 11,000 af of Castaic Lake's SWP water was delivered to Kern, of which 7,177 af was Table A water and 3,823 af was Article 56(c) carryover water.

(SWPAO #13018)

### ***Coachella Valley Water District***

A change in point of delivery and conveyance agreement among DWR, Coachella Valley Water District (Coachella), and Kern, executed July 30, 2013, provides for the annual delivery of up to 16,500 af of water acquired by Coachella through December 31, 2035. Glorious Land Company, LLC and Rosedale-Rio Bravo, a member unit of Kern, executed an agreement in 2005 to provide a water supply from Rosedale-Rio Bravo to Glorious Land Company's development project in Riverside County. Glorious Land Company is not yet ready to receive the water to which it is entitled under the 2005 Rosedale-Rio Bravo/Glorious Land Agreement. In 2012, Glorious Land Company and Coachella executed an assignment agreement, which allows Coachella to annually acquire up to 16,500 af of Rosedale-Rio Bravo's water under the 2005 Rosedale-Rio-Bravo/Glorious Land Agreement (Assigned Water). This change in point of delivery agreement allows for the delivery of the Assigned Water to Coachella by (1) a change in point of delivery of a portion of Rosedale-Rio Bravo's allocation of Kern's Table A water as an exchange for a like amount of Assigned Water, and (2) conveyance of the Assigned Water to Coachella under Article 55 of Coachella's long-term water supply contract by direct pump-in of the water into the California Aqueduct. In 2013, a total of 16,500 af of Kern's Table A water was delivered to Coachella. (SWPAO #12023)

### ***Crestline-Lake Arrowhead Water Agency***

A letter agreement among DWR, Crestline-Lake Arrowhead Water Agency (Crestline), and San Gorgonio Pass Water Agency (San Gorgonio), dated September 9, 2013, and executed September 13, 2013, provided for the delivery of up to 2,000 af of Crestline's Table A water stored in San Luis Reservoir to San Gorgonio. In exchange, San Gorgonio will return 1,300 af of its future Table A water to Crestline by December 31, 2023. There are no monetary payments between Crestline and San Gorgonio for this exchange. During 2013, a total of 2,000 af of Crestline's Article 56(c) carryover water was delivered to San Gorgonio under this agreement.

(SWPAO #13021)

### ***Dudley Ridge Water District***

A letter agreement among DWR, Dudley Ridge, and Santa Clara Valley Water District (Santa Clara), dated June 28, 2013, and executed July 12, 2013, approved the conveyance of up to 3,100 af per year, minus Delta carriage water losses, on a 50/50 basis, of nonproject water to Dudley Ridge and Santa Clara through December 31, 2024. This nonproject water was made available by Browns Valley Irrigation District. During 2013, a total of 1,085 af was delivered to Dudley Ridge and 1,085 af was delivered to Santa Clara under this agreement.

(SWPAO #13020)

A letter agreement among DWR, Dudley Ridge, and Westlands Water District (Westlands) dated November 22, 2013 and executed December 3, 2013, approved the transfer of up to 500 af of Dudley Ridge's 2013 Table A water to Westlands on behalf of Don Jackson, a landowner with farms in both Dudley Ridge's and Westlands' service areas. During 2013, a total of 500 af of Dudley Ridge's Table A water was delivered to Westlands under this agreement.

(SWPAO #13023)

### ***Empire West Side Irrigation District***

A contract between DWR and Empire, executed January 3, 2013, approved the delivery of unscheduled water to Empire in 2013 at times when SWP water is not needed for fulfilling Table A deliveries or for meeting project operational commitments. No unscheduled water was available for delivery to Empire during 2013. (SWPAO #13001)

### ***Kern County Water Agency***

An amendment between DWR and Kern, dated October 23, 2013, and executed on November 4, 2013, approved the delivery of up to 5,794 af of Kern's Table A water to Westlands' service area outside of Kings County for 2013–2014. The original agreement (SWPAO #06013) provided for the return of the water to be delivered only in the Kings County portion of Westlands' service area, which is within the SWP place of use. DWR filed a petition and received approval from the State Water Resources Control Board (SWRCB) to deliver SWP water outside the SWP place of use. The SWRCB order, adopted on July 1, 2012, approved the consolidation of the SWP and the Central Valley Project (CVP) places of use to meet urgent water needs. During 2013, a total of 2,144 af of Kern's Table A water was delivered to Westlands under this agreement. (SWPAO #06013-B and SWPAO #06013)

A change in point of delivery agreement among DWR, Kern, and Westlands was executed August 13, 2013, to facilitate the transfer of pre-1914 Kern River Lower River water rights water from the Nickel Family, LLC to Westlands. This agreement provided for the delivery of up to 15,946 af of Kern's 2013 Table A water to Westlands, and in exchange, Kern will retain a like amount of Nickel's pre-1914 water rights water for later use within its service area. This agreement is in effect through June 30, 2014. In 2013, a total of 8,393 af of water was delivered to Westlands. (SWPAO #13019)

### ***The Metropolitan Water District of Southern California***

A multiyear exchange and change in point of delivery agreement among DWR, Dudley Ridge, Kern, and The Metropolitan Water District of Southern California (Metropolitan), executed December 16, 2013, provides for the delivery of up to 8,700 af of Dudley Ridge's SWP supplies to Metropolitan by December 31, 2017. In exchange, Metropolitan will return a portion of its future SWP supplies equal to 50 percent of the total amount of water delivered to Dudley Ridge by December 31, 2022. This agreement allows for the delivery of a portion of Dudley Ridge's SWP supplies to either Metropolitan's service area and/or to Kern's turnouts for storage in Rosedale Rio-Bravo for later use by Metropolitan in its service area. No water was delivered under this agreement in 2013. (SWPAO #13012)

### ***Santa Clara Valley Water District***

An amendment to a letter agreement among DWR, Santa Clara, and Kern, dated January 7, 2013, and executed February 14, 2013, approves an additional point of delivery for the return of CVP water to Santa Clara in Reach 3 of the California Aqueduct. The original agreement (SWPAO #06012) provided for the conveyance of a portion of Santa Clara's CVP water for storage in the Semitropic Groundwater Banking Program and the future return of stored water to Santa Clara in Reach 9 of the South Bay Aqueduct by December 31, 2035. Under this agreement, 6,000 af was recovered by Santa Clara in 2013. (SWPAO #06012-A)

### ***Tulare Lake Basin Water Storage District***

A letter agreement among DWR, Tulare, and Kern, dated January 16, 2013, and executed March 15, 2013, approved the transfer of up to 10,000 af of Tulare's 2013 Table A water to Kern on behalf of JG Boswell Company, a landowner with farms in both Tulare's and Kern's service areas. This transfer allowed Boswell to augment its Kern water supply to meet crop requirements. No water was

delivered to Kern under this agreement in 2013. (SWPAO #13003)

A letter agreement among DWR, Tulare, and Westlands, dated February 1, 2013 and executed March 28, 2013, approved the transfer of up to 4,000 af of Tulare's 2013 Table A water to Westlands on behalf of Westlake Farms Incorporated, with farms in both Tulare's and Westlands' service areas. During 2013, a total of 1,121 af was delivered, completing this agreement. (SWPAO #13004)

A letter agreement among DWR, Tulare, and Kern, dated March 27, 2013, and executed May 8, 2013, approved the transfer of up to 7,500 af of Tulare's 2013 Table A water to Kern. The transfer was made on behalf of a landowner, Sandridge Partners Incorporated, with farms in both Tulare's and Kern's service areas. No water was delivered to Kern under this agreement in 2013. (SWPAO #13011)

A letter agreement between DWR and Tulare, dated May 31, 2013, and executed June 7, 2013, approved the conveyance of up to 10,000 af of Friant Recirculation Water in association with the San Joaquin River Restoration Program to Tulare. This nonproject water was made available by Lower Tule River Irrigation District to Tulare in exchange for a comparable amount of Tulare's local river supplies. Reclamation made this nonproject water available at O'Neill Forebay for DWR to convey to Tulare under Article 55 of Tulare's long-term water supply contract. This agreement terminates February 28, 2014. During 2013, a total of 5,000 af was conveyed to Tulare under this agreement. (SWPAO #13016)

A letter agreement between DWR and Tulare, dated February 21, 2013, and executed on February 26, 2013, approved the conveyance of up to 5,300 af of nonproject water to Tulare under Article 55 of Tulare's long-term water supply contract. This nonproject water

was made available by Fresno Slough Water District (4,000 af) and Mercy Springs Water District (1,300 af) for delivery to Angiola Water District, a member unit of Tulare. This agreement terminates February 28, 2014. No water was delivered under this agreement in 2013. (SWPAO #13002)

## Water Conveyance and Exchange Agreements Prior to 2013

### County of Butte

Three agreements were executed in 2012 among DWR, Butte, and several participating SWP contractors. The long-term water supply contract for Butte provides for a maximum Table A amount of 27,500 af per year. Butte determined that up to 24,000 af per year of its Table A water was not needed to meet its in-county demands for 2012 and 2013 and requested a transfer of up to 24,000 af per year of water to Palmdale Water District (Palmdale), Dudley Ridge, and Kern. Butte also determined that the difference of 3,500 af per year (27,500 af minus 24,000 af) may not be fully utilized by Butte for its in-county needs and requested a portion of the 3,500 af per year be available on a percentage basis to Palmdale, Dudley Ridge, and Kern (Additional Water). The three agreements terminate December 31, 2013. In 2013, Butte's allocated Table A water was transferred as follows:

- (1) An agreement among DWR, Butte, and Palmdale, executed August 3, 2012, approved the delivery of up to 10,000 af of Butte's allocated Table A water plus a portion of the Additional Water, if it becomes available, to Palmdale in 2012 and 2013. During 2013, a total of 3,256 af of Butte's Table A water was delivered to Palmdale under the agreement. (SWPAO #12015)
- (2) An agreement among DWR, Butte, and Dudley Ridge, executed August 3, 2012, approved the delivery of 14.34 percent of the water derived from the 14,000 af of Butte's allocated Table A water plus

a portion of the Additional Water, if it becomes available, to Dudley Ridge in 2012 and 2013. During 2013, a total of 727 af of Butte's Table A water was delivered to Dudley Ridge under the agreement. (SWPAO #12016)

- (3) An agreement among DWR, Butte, and Kern, executed August 3, 2012, approved the delivery of 85.66 percent of the water derived from the 14,000 af of Butte's allocated Table A water plus a portion of the Additional Water, if it becomes available, to Kern for four of its member units (Belridge Water Storage District, Berrenda Mesa Water Storage District, Lost Hills Water District, and Wheeler Ridge-Maricopa Water Storage District) in 2012 and 2013. During 2013, a total of 4,342 af of Butte's Table A water was delivered to Kern under the agreement. (SWPAO #12017)

### **County of Kings**

A long-term change in point of delivery agreement among DWR, County of Kings (Kings), and Tulare, executed March 10, 2006, approves the delivery of up to 200 af of Kings' annual Table A water to Westlands' turnouts. The water was conveyed to GWF Energy LLC for use within Kings' service area. This agreement is effective through December 31, 2035. During 2013, 10 af of Kings' Article 56(c) carryover water was delivered to Westlands' turnouts. (SWPAO #02031)

A long-term change in point of delivery agreement among DWR, Kings, and Westlands, executed March 24, 2004, approves the delivery of up to 5,000 af of Kings' annual Table A water through Westlands' turnouts for use at Lemoore Naval Air Station. The agreement is effective through December 31, 2035. During 2013, DWR delivered a total of 1,995 af to Westlands' turnouts, which included 581 af of Article 56(c) carryover water and 1,414 af of Table A water. (SWPAO #04005)

A long-term change in point of delivery agreement among DWR, Kings, and Westlands, executed May 6, 2008, provides for Kings' approved SWP supplies to be conveyed to specific Westlands' turnouts in the California Aqueduct. Kings requested the water for use on Westlands' agricultural lands within Kings' service area. This agreement is effective through December 31, 2035. During 2013, DWR conveyed a total of 6 af of Turn-Back Pool A water to Westlands' turnouts. (SWPAO #07010)

### **Dudley Ridge Water District**

A multiyear same landowner transfer agreement among DWR, Dudley Ridge, and Kern, executed June 13, 2011, provides for the delivery of a portion of Dudley Ridge's approved Table A water for same landowner transfers to Kern without any expected return through December 31, 2020. During 2013, a total of 6,941 af of Dudley Ridge's Table A water was delivered to Kern, of which 2,000 af was Article 56(c) carryover water and 4,941 af was Table A water. (SWPAO #10030)

A multiyear exchange agreement among DWR, Dudley Ridge, and San Gabriel Valley Municipal Water District (San Gabriel), executed September 14, 2010, approves the conveyance of Dudley Ridge's approved SWP supplies to San Gabriel effective January 1, 2010, through December 31, 2020. San Gabriel will provide for the return of its approved SWP water in future years through December 31, 2030. Terms and conditions of this agreement also covered Dudley Ridge's Table A water deliveries to San Gabriel during 2008. During 2013, a total of 672 af of Dudley Ridge's Table A water was conveyed to San Gabriel. (SWPAO #10013)

A letter agreement among DWR, Dudley Ridge, and San Gabriel, executed October 2, 2006, approved the delivery of a portion of Dudley Ridge's 2005 and 2006 approved SWP water supplies to San Gabriel's service area for groundwater recharge. This transaction helps both agencies in the management

of their water supplies, especially Dudley Ridge, whose main water source is the SWP. San Gabriel will return a like amount of its Table A water to Dudley Ridge by December 31, 2016. During 2013, a total of 1,500 af of San Gabriel's Table A water was delivered to Dudley Ridge's turnout at Reach 8D. (SWPAO #05017)

A multiyear exchange agreement among DWR, Dudley Ridge, and Tulare, executed September 7, 2012, approves multiyear water exchanges and same landowner transfers between Dudley Ridge and Tulare through December 31, 2035. This agreement allows for the delivery of up to 15,000 af per year for the years 2012–2035 of Dudley Ridge's and/or Tulare's approved Table A water for same landowner transfer to the other party without any expected return. During 2013, a total of 8,099 af of Tulare's Table A water was delivered to Dudley Ridge under this agreement. (SWPAO #12011)

### ***Empire West Side Irrigation District***

A long-term change in place of use agreement among DWR, Empire, and Westlands, executed March 3, 2011, approved annual delivery of up to 2,000 af of Empire's Table A water to Westlands through April 1, 2027. This transfer was made on behalf of two landowners, Brooks Farms and Newton Brothers, that farm in both Empire's and Westlands' service areas. DWR petitioned the SWRCB for a temporary change in place of use. The SWRCB issued an order authorizing the long-term change in place of use on November 21, 2011. During 2013, a total of 972 af of Empire's Table A water was delivered to Westlands. (SWPAO #10008)

### ***Kern County Water Agency***

A letter agreement between DWR and Kern, dated July 9, 2012, and executed July 18, 2012, approved the conveyance of up to 55,300 af of Kern-Tulare Water District's (Kern-Tulare) 2012 and 2013 CVP water to Kern under Article 55 of Kern's long-term

water supply contract. In exchange, Kern-Tulare will receive an equal amount of Kern's Table A water. This agreement terminates February 28, 2014. During 2013, a total of 6,660 af was delivered to Kern under this agreement. (SWPAO #12010)

A letter agreement between DWR and Kern, dated November 15, 2010, and executed November 19, 2010, approved the conveyance of up to 50,000 af of Westlands' 2010–2011 CVP water to Semitropic Water Storage District (Semitropic), a member unit of Kern, for storage and future return of a like amount of water to Westlands by December 31, 2021. Reclamation will make Westlands' CVP water available at O'Neill Forebay for conveyance by DWR to Semitropic under Article 55 of Kern's long-term water supply contract. In 2013, a total of 856 af of Kern's Table A water was provided to Reclamation at O'Neill Forebay for subsequent delivery to Westlands. (SWPAO #10022)

A long-term change in point of delivery agreement between DWR and Kern, executed June 8, 2000, approved the delivery of a portion of Kern's annual Table A water to Western Hills Water District (Western Hills). In exchange, Kern will receive a like amount of local water acquired by Western Hills in the Pioneer Groundwater Bank. The SWRCB approved Western Hills' service area to be included within the authorized SWP place of use on April 21, 2000. During 2013, a total of 1,156 af of Kern's Table A water was delivered to Western Hills. (SWPAO #01001)

### ***Mojave Water Agency***

The 1997 agreement (SWPAO #97003) among DWR, Mojave Water Agency (Mojave), and AVEK, executed on November 13, 1997, and an amendment (SWPAO #97003-A) executed on January 12, 2012 approved the delivery of up to 4,800 af per year of Mojave's approved SWP supplies to AVEK's turnouts through December 31, 2035. The agreement and the amendment

provide for the delivery of up to 1,800 af per year for use by a solar power generating plant, operated by Luz Solar Partners, Ltd. III-VII, and provide for the delivery of up to 3,000 af into AVEK's groundwater basin as a backup water supply to the plant in the event of an outage on the SWP. During 2013, DWR delivered 33 af of Mojave's Table A water to AVEK's turnout in Reach 19 of the California Aqueduct. (SWPAO #97003 and #97003-A)

### ***Napa County Flood Control and Water Conservation District***

A change in point of delivery agreement among DWR, Napa, and Solano, executed October 11, 2010, approved the conveyance of up to 500 af per year of the City of Vallejo's nonproject water from Solano's service area to Napa's service area under Article 55 of Napa's long-term water supply contract. The City of Vallejo, a member agency of Solano, has water rights to this nonproject water originating from Cache Slough and Lindsay Slough, tributaries of the Sacramento River. This agreement provides for the delivery of City of Vallejo's nonproject water through Reach 3B of the North Bay Aqueduct, located within Napa's service area. This agreement is effective through December 31, 2035. During 2013, a total of 500 af of water was conveyed under this agreement. (SWPAO #10005)

A change in point of delivery agreement among DWR, Napa, and Solano, executed December 26, 2001, approved the delivery of up to 628 af of Napa's annual Table A water to the City of Vallejo's Water Treatment Plant in Solano's service area. This water is further conveyed to the City of American Canyon, a member agency of Napa. The agreement is effective until December 31, 2035. A total of 60 af of Napa's 2013 Table A water was delivered to Solano's turnouts. (SWPAO # 00029)

### ***Palmdale Water District***

A letter agreement among DWR, Palmdale, and AVEK, dated May 1, 2012, and executed November 13, 2012, approved the delivery

of up to 10,000 af of Palmdale's 2011 SWP water supplies to AVEK. In exchange, AVEK will return 50 percent of the total amount delivered to AVEK, up to 5,000 af, of its future SWP supplies to Palmdale by December 31, 2021. During 2013, a total of 8 af of Palmdale's Article 56(c) carryover water was delivered to AVEK. (SWPAO #11020)

### ***Santa Barbara County Flood Control and Water Conservation District***

A letter agreement among DWR, Santa Barbara County Flood Control and Water Conservation District (Santa Barbara), and Kern, dated May 21, 2008, and executed July 24, 2008, approved the delivery of up to 1,000 af of Santa Barbara's 2008 Table A water to Kern. In exchange, Kern will return up to 500 af of its future allocated Table A water to Santa Barbara by May 1, 2013. In 2013, a total of 277 af of Kern's Table A water was delivered to Santa Barbara under this agreement. (SWPAO #08008)

A letter agreement among DWR, Santa Barbara, and Palmdale, dated February 28, 2011, and executed May 16, 2011, approved the exchange of up to 7,000 af of Santa Barbara's 2010 carryover water with Palmdale's future Table A water. To prevent the potential loss in the event that San Luis Reservoir would spill, Santa Barbara's 2010 carryover water was provided to Palmdale at O'Neill Forebay and subsequently delivered to Kern to facilitate a partial return of a previous water exchange between Palmdale and West Kern Water District, a member unit of Kern (SWPAO #07029, Bulletin 132-09). Palmdale will return all water to Santa Barbara by December 31, 2021. During 2013, a total of 362 af of Palmdale's Table A water was delivered to Santa Barbara. (SWPAO #11006)

A letter agreement (SWPAO #11019) among DWR, Santa Barbara, and Dudley Ridge, dated November 10, 2011, and executed

November 28, 2011, and an amendment (SWPAO #11019-A) dated April 6, 2012, and executed April 16, 2012, approved the delivery of up to 3,000 af of Santa Barbara's 2011 SWP supplies to Dudley Ridge. The water would be delivered at Dudley Ridge's turnouts in Reach 8D or to Kern's turnouts in Reaches 12E and 13B of the California Aqueduct for storage under a 2008 change in point of delivery agreement among DWR, Dudley Ridge, and Kern (SWPAO #08050). In exchange, Dudley Ridge will return two-thirds, less losses, of its future approved SWP supplies to Santa Barbara by December 31, 2021. In 2013, a total of 1,090 af of Dudley Ridge's Article 56(c) carryover water was delivered to Santa Barbara. (SWPAO #11019 and #11019-A)

A letter agreement (SWPAO #11018) among DWR, Santa Barbara, and Kern, dated November 10, 2011, and executed January 16, 2012, and an amendment (SWPAO #11018-A) dated June 18, 2012, and executed August 2, 2012, approved the delivery of up to 17,000 af of Santa Barbara's 2011 SWP supplies to Kern. In exchange, Kern will return two-thirds, less losses, of its future approved SWP supplies to Santa Barbara by December 31, 2021. During 2013, a total of 804 af of Kern's SWP supplies was delivered to Santa Barbara under this agreement. (SWPAO #11018 and #11018-A)

### ***Solano County Water Agency***

A settlement agreement among DWR, Solano, and the cities of Fairfield, Vacaville, and Benicia, which includes conveyance service by Solano, was executed May 19, 2003. The agreement provides for delivery through December 31, 2035, of up to 31,620 af per year of settlement water to Solano for delivery through the North Bay Aqueduct to the three cities to help meet their current and future municipal and industrial water needs. During 2013, a total of 1,752 af of settlement water was delivered to Solano for conveyance to the three cities. (SWPAO #03017)

### ***Tulare Lake Basin Water Storage District***

A letter agreement between DWR and Tulare, dated July 30, 2012, and executed July 31, 2012, approved the conveyance of up to 5,300 af of CVP water stored in San Luis Reservoir to Angiola Water District, a member unit of Tulare. This nonproject water was made available by Fresno Slough Water District (4,000 af) and Mercy Springs Water District (1,300 af). DWR conveyed this nonproject water from O'Neill Forebay to Tulare under Article 55 of Tulare's long-term water supply contract. The agreement terminated February 28, 2013. During 2013, a total of 1,054 af was conveyed to Tulare under this agreement. (SWPAO #12020)

A long-term change in place of use agreement among DWR, Tulare, and Westlands, executed January 7, 2011, approved the delivery of up to 8,000 af per year of Tulare's Table A water to Westlands' turnouts through April 1, 2027. The transfer was made on behalf of two landowners, Hansen Ranches and Newton Farms, that farm in both Tulare's and Westlands' service areas. DWR petitioned the SWRCB for a temporary change in place of use. The SWRCB issued an order authorizing the long-term change in place of use on November 21, 2011. In 2013, a total of 6,509 af was delivered to Westlands. (SWPAO #10006)

### ***Introduction of Local Water Agreement***

An introduction of local water agreement between DWR and Kern, executed January 17, 2013, approved the introduction of Kern's local water into the California Aqueduct at Reach 12E (Cross Valley Canal Turnout No. 2) at Milepost 238.05. During 2013, no water was moved under this agreement. (SWPAO #12012)

## Turnout Agreements

### *Antelope Valley-East Kern Water Agency*

On August 21, 2013, DWR executed an amendment to the existing agreement with AVEK for modification, operation, and maintenance of the 294th Street West Turnout. The amendment allowed the connection and installation of a 24-inch steel pipeline within DWR's right of way for delivery of SWP water approximately 2,000 feet northwest to adjacent Tejon Ranch land for water banking purposes. The turnout, located at Milepost 308.05 of the California Aqueduct, maintains a maximum design capacity of 18 cubic feet per second.

### *San Luis Obispo County Flood Control and Water Conservation District*

On May 16, 2013, DWR executed an agreement with the San Luis Obispo County Flood Control and Water Conservation District (San Luis Obispo) and Central Coast Water Authority for construction, operation and maintenance of the Shandon Turnout. The turnout, to be located at Milepost 38.23 of the California Aqueduct's Coastal Branch, has a maximum design capacity of 3.5 cubic feet per second, depending on the operating conditions of the SWP.

## Activities Related to the Monterey Amendments

### *Storage of Water Outside SWP Contractor Service Areas*

Pursuant to Article 56(c) of the Monterey Amendments, seven SWP water contractors have separate agreements with DWR to convey approved water supplies outside their service areas for storage in existing and operational groundwater storage programs and for future recovery of water to use within their service areas. These changes in point of delivery agreements are listed in Table 9-1. These agreements include provisions for conveyance to and from storage, and recovery methods by exchange and/or

pump-in to the California Aqueduct. During 2013, a total of 5,933 af was conveyed to storage, including losses, and 169,786 af was recovered from storage.

## *Turn-Back Water Pool Program*

Pursuant to Article 56(d) of the Monterey Amendments, the Turn-Back Water Pool Program for 2013 was initiated through "Notice to State Water Project Contractors, No. 13-04," dated February 12, 2013. All SWP water contractors who signed the Monterey Amendments were permitted to participate in the program. The program allowed SWP water contractors to offer a portion of their approved 2013 Table A water for sale in a turn-back pool for use by interested SWP water contractors. The program has two pools to buy and sell water: Pool A and Pool B. Based on Table A supply and demand, the turn-back water pool water was allocated among the purchasing contractors.

Initial offers for sales of Pool A of the Turn-Back Water Pool Program occurred in February 2013, with 4,110 af purchased under Pool A. Pool A turn-back water sold for \$23.17 per af (50 percent of the 2013 Delta Water Rate). There were no participants in Pool B of the program. The 2013 Turn-Back Water Pool Program closed on June 1, 2013. Notices to State Water Project Contractors describing the Turn-Back Water Pool Program are available online at DWR's website.

Table 9-2 lists SWP water contractors who participated in Pool A of the 2013 Turn-Back Water Pool Program.

**Area of Origin.** The Area of Origin Settlement Agreement in 2013 allowed County of Butte to reduce its 2010 Table A amount from 27,500 af to 1,731 af and its 2011 Table A amount from 27,500 af to 2,548 af. The Table A reductions were based on County of Butte's actual annual water demands and retroactively eliminated their ability to participate in 2010 and 2011 Turn-Back Water Pool Program activities.

**Table 9-1 Storage of Water Outside SWP Contractor Service Areas in 2013 (acre-feet)<sup>a</sup>**

| Contractor                | Contract Status | Storage Provider          | To Storage<br>(include losses,<br>if any) | From<br>Storage | Return By |
|---------------------------|-----------------|---------------------------|---|-----------------|-----------|
| <b>Alameda-Zone 7</b>     |                 |                           |   |                 |           |
| SWPAO #99018              | Continuing      | Semitropic                | 0   | 4,000           | 2035      |
| SWPAO #00037 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #01035 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #02010 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #03008 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #04017              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #06010              | Continuing      | Cawelo <sup>c</sup>       | 0   | 0               | 2035      |
| <b>Alameda County</b>     |                 |                           |   |                 |           |
| SWPAO #99017              | Continuing      | Semitropic                | 0   | 4,000           | 2035      |
| SWPAO #00030              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #07005              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #10009              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| <b>Castaic Lake</b>       |                 |                           |   |                 |           |
| SWPAO #02015 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2022      |
| SWPAO #03060 <sup>b</sup> | Continuing      | Semitropic                | 0   | 0               | 2024      |
| SWPAO #05016              | Continuing      | Rosedale-Rio Bravo        | 0   | 0               | 2035      |
| <b>Dudley Ridge</b>       |                 |                           |   |                 |           |
| <i>SWP Water</i>          |                 |                           |   |                 |           |
| SWPAO #08050              | Continuing      | Kern Water Bank           | 0   | 3,365           | 2035      |
| SWPAO #09002              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| <i>Non-SWP Water</i>      |                 |                           |   |                 |           |
| SWPAO #09040              | Continuing      | Kern Water Bank           | 0   | 0               | 2020      |
| SWPAO #03053              | Continuing      | Cawelo                    | 0   | 874             | 2035      |
| <b>Metropolitan</b>       |                 |                           |   |                 |           |
| SWPAO #95010              | Continuing      | Semitropic                | 0   | 47,179          | 2035      |
| SWPAO #01013              | Continuing      | Arvin-Edison <sup>d</sup> | 5,933                                     | 33,205          | 2035      |
| SWPAO #03019              | Continuing      | Kern Delta <sup>e</sup>   | 0   | 10,000          | 2035      |
| SWPAO #03057              | Continuing      | Mojave                    | 0   | 0               | 2015      |
| SWPAO #11011              | Continuing      | Mojave                    | 0   | 20,663          | 2035      |
| SWPAO #11022              | Continuing      | Rosedale-Rio Bravo        | 0   | 0               | 2017      |
| <b>San Bernardino</b>     |                 |                           |   |                 |           |
| SWPAO #11015              | Continuing      | Kern Delta                | 0   | 1,500           | 2035      |
| <b>Santa Clara</b>        |                 |                           |   |                 |           |
| <i>SWP Water</i>          |                 |                           |   |                 |           |
| SWPAO #99016              | Continuing      | Semitropic                | 0   | 26,967          | 2035      |
| SWPAO #00031              | Continuing      | Semitropic                | 0   | 12,033          | 2035      |
| SWPAO #06011              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #10012              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| <i>Non-SWP Water</i>      |                 |                           |   |                 |           |
| SWPAO #06012              | Continuing      | Semitropic                | 0   | 6,000           | 2035      |
| SWPAO #10029              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| SWPAO #11012              | Continuing      | Semitropic                | 0   | 0               | 2035      |
| <b>Total<sup>f</sup></b>  |                 |                           | <b>5,933</b>                              | <b>169,786</b>  |           |

<sup>a</sup> Storage amounts in this table may differ from the amounts in Table 9-9 due to water-type reclassification.<sup>b</sup> Indicates amendments to agreement.<sup>c</sup> Cawelo Water District<sup>d</sup> Arvin-Edison Water Storage District<sup>e</sup> Kern Delta Water District<sup>f</sup> Total acre-feet indicates all water recovered from various water banks. Some of the recovered water may be temporarily stored in SWP facilities. Amounts include losses, if any.

**Table 9-2 2013 Turn-Back Water Pool Program (acre-feet)**

| Contractor                  | Sold         | Purchased    |
|-----------------------------|--------------|--------------|
|                             | Pool A       |              |
| Ventura <sup>a</sup>        | 4,110        |              |
| Alameda-Zone 7 <sup>b</sup> |              | 96           |
| Alameda County <sup>c</sup> |              | 50           |
| Coachella                   |              | 164          |
| Kings                       |              | 11           |
| Desert <sup>d</sup>         |              | 66           |
| Dudley Ridge                |              | 60           |
| Kern (Agricultural)         |              | 1,165        |
| Santa Clara                 |              | 119          |
| Metropolitan                |              | 2,267        |
| Tulare                      |              | 105          |
| Oak Flat <sup>e</sup>       |              | 7            |
| <b>Total</b>                | <b>4,110</b> | <b>4,110</b> |

<sup>a</sup> Ventura County Watershed Protection District

<sup>b</sup> Alameda County Flood Control and Water Conservation District, Zone 7

<sup>c</sup> Alameda County Water District

<sup>d</sup> Desert Water Agency

<sup>e</sup> Oak Flat Water District

A total of \$470,600 was returned to DWR resulting from County of Butte's retroactive elimination from the 2010 and 2011 Turn-Back Water Pool Program.

During the 2010 Turn-Back Water Pool Program, County of Butte sold 1,283 af of Pool A water and 10,088 af of Pool B water. County of Butte received a total of \$120,479 for their 2010 Turn-Back Water Pool Program activities. Pool A water and Pool B water proceeds were \$24,441 and \$96,038, respectively.

Additionally, County of Butte sold 14,296 af of Pool A water and 4,765 af of Pool B water under the 2011 Turn-Back Water Pool Program. County of Butte received a total of \$349,581 for their 2011 Turn-Back Water Pool Program activities. Pool A water and Pool B water proceeds were \$299,644 and \$49,937, respectively.

### **Multiyear Water Pool Demonstration Program**

The experimental 2013–2014 Multiyear Water Pool Demonstration Program was initiated through an informational letter sent to all SWP contractors dated May 23, 2013. The program's purpose was to demonstrate the feasibility of a multiyear water purchase program. All SWP water contractors were permitted to participate in the program as either buyers or sellers in either one or both years, 2013 and 2014. The program allowed SWP water contractors to offer portions of their approved 2013 Table A and Article 56(c) water for sale in a water pool for use by interested SWP water contractors. Based on Table A supply and demand, the pool water was allocated among the purchasing contractors into one of the two Buyer pools. The "69 Percent Pool" consisted of water purchased by Metropolitan and Kern, which together take up 69.36 percent of the total SWP Table A amount. The remaining 30.64 percent of the SWP Table A amount was available for the other SWP water contractors to purchase in the "31 Percent Pool."

Initial offers for sales of water in the 2013 Multiyear Water Pool Demonstration Program occurred in June 2013, with 94,925 af purchased under this program. Multiyear Water Pool Demonstration Program water sold for \$253.00 per af, for a Table A allocation of 35 percent on June 1, 2013. The 2013 Multiyear Water Pool Demonstration Program closed on June 24, 2013.

Table 9-3 lists SWP water contractors who participated in the 2013 Multiyear Water Pool Demonstration Program.

**Table 9-3 2013 Multiyear Water Pool Demonstration Program (acre-feet)**

| Contractor      | Sold          | Purchased     |
|-----------------|---------------|---------------|
|                 | Pool MP       |               |
| Napa            | 5,900         |               |
| San Luis Obispo | 19,404        |               |
| Crestline       | 2,000         |               |
| Mojave          | 64,928        |               |
| Santa Barbara   | 2,693         |               |
| Alameda-Zone 7  |               | 2,500         |
| Kings           |               | 989           |
| Empire          |               | 319           |
| Dudley Ridge    |               | 5,352         |
| Kern            |               | 35,840        |
| Santa Clara     |               | 10,630        |
| Metropolitan    |               | 30,000        |
| Tulare          |               | 8,295         |
| San Gorgonio    |               | 1,000         |
| <b>Total</b>    | <b>94,925</b> | <b>94,925</b> |

### Article 21 Water Program

Pursuant to the Monterey Amendments, Article 21 water replaces surplus, wet weather, and Article 12(d) water. The Article 21 Water Program allows an SWP water contractor to take delivery of water over the approved and scheduled Table A amounts for the current year. Article 21 water is only available for delivery on a short-term basis as determined by DWR when water is still available after operational requirements for SWP water deliveries, water quality, and Delta requirements are met. During 2013, no Article 21 water was delivered.

### Flexible Storage Program

Pursuant to Article 54 of the Monterey Amendments, the Flexible Storage Program provides SWP water contractors participating in the repayment of the capital costs of Castaic Lake and Lake Perris the option to withdraw water in excess of approved

deliveries. The program objective is to provide additional flexibility to benefit local water management activities. Participating SWP water contractors are given 5 years to replace withdrawn stored water with approved SWP or non-SWP water.

Flexible storage allows for withdrawal of up to 160,000 af at Castaic Lake and 65,000 af at Lake Perris. SWP water contractors participating in the Castaic Lake Flexible Storage Program include Metropolitan, Ventura County Watershed Protection District (Ventura), and Castaic Lake. These contractors are allowed to withdraw up to a maximum of 153,940 af, 1,377 af, and 4,683 af, respectively. Metropolitan is the only SWP water contractor allowed to withdraw water from Lake Perris, up to a maximum of 65,000 af. During 2013, there were no participants in this program.

### Extended Carryover Program

Pursuant to Article 56 of the Monterey Amendments, SWP water contractors can elect to store SWP water outside of their service areas and carry it over to the following year for use within their service areas. Qualified contractors can request the carryover of Table A water for delivery in the following year to the extent that such deliveries do not adversely affect current or future project operations. Factors that influence how much extended carryover water can be delivered include operational constraints of project facilities, filling of SWP conservation storage facilities, flood control releases, and water quality restrictions. If storage requests exceed the available storage capacity, the amount available is allocated among the SWP water contractors requesting storage in proportion to their annual Table A amount for that year. Twenty-three SWP water contractors took delivery of Article 56(c) in the amount of 350,555 af of previously approved Table A water carried over into 2013, as extended carryover.

## 2013 Dry Year Transfers

Due to the critically dry hydrologic conditions in 2013, a number of water supply agencies experienced significant water supply shortages. Two SWP contractors (Kern and Dudley Ridge) executed agreements with the State Water Contractors (SWC) to acquire transfer water to supplement their allocated SWP contract supplies. In addition to the SWC purchases, Alameda County Flood Control and Water Conservation District, Zone 7 (Alameda-Zone 7) received transfer water under a long-term transfer agreement with Byron Bethany Irrigation District (Byron Bethany). The SWP buyers executed water transfer conveyance agreements with DWR and seven agencies on the Feather, Yuba, and Sacramento rivers, the Sutter Bypass, and within the Delta.

San Luis & Delta-Mendota Water Authority (San Luis & Delta-Mendota) representing CVP contractors, purchased water for delivery to a number of its member agencies. In addition, Westlands purchased additional supplemental water supplies in 2013. DWR executed water transfer conveyance agreements with San Luis & Delta-Mendota and eight agencies on the Sacramento River to convey non-Project water through SWP facilities. DWR also executed three water transfer conveyance agreements with Westlands and agencies on the Feather, American, and Merced rivers.

A total of 86,497 af of water was made available to the SWP and CVP water transfer buyers in 2013. Transfer water was made available through crop idling, groundwater substitution, reservoir reoperation and a combination of reservoir release and groundwater substitution. See Table 9-4 for a list of sellers that provided water for transfer in 2013, and see Table 9-5 for a list of the SWP buyer activity. In addition to the water made available for transfer in 2013, a total of 67,079 af of transfer water made available to Kern and Dudley Ridge in 2012 that was stored in Lake Oroville due to SWP operational issues (see Bulletin 132-13,

Chapter 9). The 2012 transfer water was released and exported to Kern and Dudley Ridge in 2013. A total of 109,941 af of 2012 and 2013 transfer water was conveyed for SWP and CVP contractors through the Delta after carriage water losses and aqueduct conveyance losses assessed to non-SWP contractors were deducted. Carriage water losses of 30 percent were assessed for all transfer water originating in the Sacramento River watershed. A carriage water loss of 10 percent was applied to the transfer from the Merced River. All the transfer water was exported from the Delta during July through September.

## Lower Yuba River Accord

The Lower Yuba River Accord (Yuba Accord) was announced in 2005 to settle long-standing litigation over instream flows in the Yuba River in relation to fisheries. The purpose of the Yuba Accord is to resolve instream flow issues associated with the operation of the Yuba River Development Project in a way that protects and enhances lower Yuba River fisheries and local water supply reliability. The Yuba River Development Project provides revenues for local flood control and water supply projects, water to enhance SWP and CVP water supply reliability by offsetting Delta export reductions for the protection and restoration of Sacramento-San Joaquin Delta fisheries, and improvements in statewide water supply management, including dry year water supplies for participating SWP and CVP water contractors.

The Yuba Accord is based on three sets of agreements: a water purchase agreement with DWR, including water to help offset Delta export reductions and dry year water for participating SWP and CVP water contractors; conjunctive use agreements with Yuba member units; and a fisheries agreement resolving minimum flows. The Yuba Accord provides for higher releases into the Yuba River to benefit Chinook Salmon and steelhead, transfer water to help offset Delta export reductions annually, and dry year transfer water for SWP and CVP

**Table 9-4 Dry Year Transfers Seller Activity, 2013 (acre-feet)**

| <b>Sellers<sup>a</sup></b>          | <b>Buyers</b>            | <b>SWPAO #</b> | <b>Transfer Action</b> | <b>Transfer Water Available</b> |
|-------------------------------------|--------------------------|----------------|------------------------|---------------------------------|
| Butte WD                            | Kern                     | 13-700         | Groundwater            | 3,378                           |
| Cordua ID                           | Dudley Ridge             | 13-701         | Groundwater            | 6,270                           |
|                                     | Kern                     |                |                        |                                 |
| Garden Highway Mutual WC            | Dudley Ridge             | 13-702         | Groundwater            | 3,392                           |
|                                     | Kern                     |                |                        |                                 |
| Sacramento Suburban WD              | Dudley Ridge             | 13-703         | Groundwater            | 2,823                           |
|                                     | Kern                     |                |                        |                                 |
| Sutter Extension WD                 | Dudley Ridge             | 13-704         | Groundwater            | 2,514                           |
|                                     | Kern                     |                |                        |                                 |
| Tule Basin Farms, LLC               | Dudley Ridge             | 13-705         | Groundwater            | 2,626                           |
|                                     | Kern                     |                |                        |                                 |
| Byron Bethany                       | Alameda-Zone 7           | 13-706         | Crop Idling            | 2,238                           |
| Anderson Cottonwood ID              | San Luis & Delta-Mendota | 13-707         | Groundwater            | 2,036                           |
| Conaway Preservation Group          | San Luis & Delta-Mendota | 13-708         | Groundwater            | 5,049                           |
| Eastside Mutual WC                  | San Luis & Delta-Mendota | 13-709         | Groundwater            | 798                             |
| Glenn-Colusa ID                     | San Luis & Delta-Mendota | 13-710         | Groundwater            | 4,400                           |
| Pelger Mutual WC                    | San Luis & Delta-Mendota | 13-711         | Groundwater            | 1,522                           |
| Pleasant Grove-Verona Mutual WC     | San Luis & Delta-Mendota | 13-712         | Groundwater            | 5,134                           |
| Reclamation District 1004           | San Luis & Delta-Mendota | 13-713         | Groundwater            | 6,314                           |
| Te Velde Trust                      | San Luis & Delta-Mendota | 13-714         | Groundwater            | 1,247                           |
| Placer County WA                    | Westlands                | 13-715         | Reservoir Reoperation  | 20,000                          |
| Thermalito Water and Sewer District | Westlands                | 13-716         | Reservoir Reoperation  | 1,754                           |
| Merced ID                           | Westlands                | 13-717         | Reservoir Reoperation  | 15,000                          |
| <b>Total</b>                        |                          |                |                        | <b>86,497</b>                   |

<sup>a</sup> WD= Water District; ID= Irrigation District; WC= Water Company; WA= Water Agency

**Table 9-5 Dry Year Transfers Buyer Activity, 2013 (acre-feet)**

| <b>Buyers</b>            | <b>Water Available to Buyer</b> | <b>Estimated Losses<sup>ab</sup></b> | <b>Net Water Delivered</b> |
|--------------------------|---------------------------------|--------------------------------------|----------------------------|
| Dudley Ridge             | 1,024                           | 307                                  | 717                        |
| Kern                     | 19,980                          | 5,994                                | 13,986                     |
| San Luis & Delta-Mendota | 26,501                          | 8,321                                | 18,180                     |
| Alameda-Zone 7           | 2,238                           | -                                    | 2,238                      |
| Westlands                | 36,754                          | 8,888                                | 27,866                     |
| <b>Total<sup>c</sup></b> | <b>86,497</b>                   | <b>23,510</b>                        | <b>62,987</b>              |

<sup>a</sup> Carriage water losses of 30 percent were applied to all transfers except the transfer from Merced Irrigation District in the San Joaquin River watershed which was assessed a 10 percent carriage water loss.

<sup>b</sup> Aqueduct conveyance losses of 2 percent or 3 percent was assessed on deliveries to non-SWP contractors based on the reach to which the water was delivered.

<sup>c</sup> Totals may not sum due to rounding.

water contractors from both surface and groundwater substitution sources.

The required agreements were executed in late 2007 and early 2008, and the SWRCB approved the Yuba Accord on March 25, 2008, setting the flow schedules for the river and authorizing accord-based water transfers through 2025. During that same period, DWR completed the execution of 22 agreements for dry year supplies for participating SWP and CVP water contractors under the accord.

In April 2009, two amendments to the Yuba Accord's water purchase agreement were executed. Amendment Number 1 resolved a technical issue related to refill accounting, and Amendment Number 2 addressed pricing issues for groundwater substitution water.

Amendment Number 3 was executed April 22, 2010, and addressed market pricing issues for groundwater substitution water.

On January 6, 2012, Amendment Number 4 to the Yuba Accord's water purchase agreement was executed. Amendment Number 4 provides for annual negotiations of groundwater substitution water pricing, prioritizing SWP water contractors' Delta export transfer supplies, and optionally suspending certain accounting rules to permit all groundwater substitution water to be classified as Component 4 water.

Under Amendment Number 4, all accrued groundwater substitution water is payable although it may not be exported. The single exception is that DWR and Yuba Accord water contractors will not be required to pay for the portion (if any) of groundwater substitution component water that is released in accordance with the provisions of the Yuba Accord Fisheries Agreement, Section 5.1.8, Supplemental Flows for Groundwater Substitution Programs. When New Bullards Bar Reservoir is releasing extra water due to a wet winter, Yuba may

not reduce releases or accrue groundwater substitution water during the following irrigation season.

A total of 166,086 af was transferred to DWR and participating SWP and CVP water contractors under the accord in 2008, 180,000 af was transferred in 2009, and 141,856 af was transferred in 2010. In 2011, excess conditions in the Delta prevented accounting of Yuba releases as transfer water for the entire summer transfer season.

In 2012, DWR and Reclamation signed an agreement (SWPAO #12300) to share, equally, Component 1 water made available from 2012 through 2015. The 2012 letter agreement between the respective project operations offices replaces a 2008 letter agreement that shared the water differently—namely that the project that experienced the greater export reductions at the Delta pumps would receive the initial share of Component 1 water until the reductions were equally offset; then the water would be shared equally. In the past, the SWP has experienced export reductions greater than the CVP by more than 60,000 af. The SWP has therefore been the beneficiary of the Component 1 water.

The 2012 letter agreement provides that:

- Component 1 water is shared equally from 2012 through 2015;
- as per the Yuba Accord, Component 1 water provided to Reclamation will be delivered at the Marysville gauge on the Yuba River; and
- DWR will provide conveyance at Banks Pumping Plant pursuant to the Joint Point of Diversion Agreement with Reclamation.

On April 17, 2013, DWR executed an annual letter agreement with Yuba setting a per-acre-foot price for Component 4 groundwater substitution water of \$190.00 per af in 2013. Yuba subsequently offered, and DWR purchased, 64,730 af of Component 4 water as part of the total 2013 transfer quantity of 177,274 af.

In May 2013, DWR initiated negotiations with Yuba on Amendment 5, which will address the required repricing of any transfer water that would be moved after September 30, 2015.

In 2013, 177,274 af was transferred, with 60,000 af of Component 1 water shared equally between DWR and Reclamation to help offset Delta export reductions to benefit fish. The Component 2, 3, and 4 dry year water deliveries were 15,000 af, 37,544 af, and 64,730 af, respectively, with half shared among 12 of the 21 participating SWP contractors and the other half shared among certain CVP contractors that are members of San Luis & Delta-Mendota. A total of 81,271 af of 2013 Yuba transfer water was conveyed through the Delta after carriage water losses. Aqueduct conveyance losses assessed to non-SWP contractors were also deducted. Carriage water losses of 30 percent were assessed for all transfer water originating in the Sacramento River watershed. In addition, 17,518 af of Yuba releases was backed into Lake Oroville during balanced conditions from October 1 through November 16, 2013, and was being held for release in 2014, provided it can be exported.

Table 9-6 shows Lower Yuba River Accord water deliveries in 2013.

## Agreements with Non-SWP Agencies

In addition to negotiating agreements with long-term SWP water contractors to provide for specified water deliveries, DWR also enters into agreements with other agencies to provide water conveyance service.

### Reclamation—Joint Point of Diversion

In 2012, DWR renewed the Joint Point of Diversion agreement (JPOD) with Reclamation. Under the JPOD, DWR makes excess SWP conveyance capacity available

to Reclamation for the conveyance of water from the Delta at Banks Pumping Plant. This includes (1) make up for curtailed water exports from Jones Pumping Plant associated with improving conditions for fish in the Delta; (2) replacing water exports foregone during maintenance and repair of CVP facilities between the Delta and O'Neill Forebay; and (3) Reclamation's share of Component 1 water provided under the Yuba Accord. As part of the JPOD, the first 21,000 af conveyed through Banks Pumping Plant for the months of July, August, and September of each year will include a charge for the temporary barriers in the Delta. This agreement is effective March 1, 2012, through February 29, 2016. (SWPAO #12300)

### Reclamation and Byron Bethany Irrigation District—Musco Family Olive Company

A pending agreement among DWR, Byron Bethany and Reclamation provides for the conveyance of up to 800 af of Byron Bethany's CVP water to repayment Reach 2A of the California Aqueduct for use by Musco Family Olive Company. DWR delivered a total of 516 af in 2013 under this pending agreement. (SWPAO #04300)

### Reclamation and Cross Valley Canal Contractors

Through eight, three-party contracts and associated changes in points of delivery (CVC Contracts) with Reclamation and Cross Valley Canal (CVC) water contractors, DWR conveys CVP water for CVC water contractors. The following eight CVP water contractors are defined as CVC water contractors: County of Fresno (Fresno), County of Tulare, Hills Valley Irrigation District (Hills Valley), Kern-Tulare Water District (Kern-Tulare), Lower Tule River Irrigation District (Lower Tule), Pixley Irrigation District (Pixley), Rag Gulch Water District (Rag Gulch), and the Tri-Valley Water District (Tri-Valley). Effective January 1, 2009,

**Table 9-6 Lower Yuba River Accord Water Deliveries, 2013 (acre-feet)<sup>a</sup>**

| Participating Contractor    | Purchased Water             |                             |                             |                | Water Losses             |                          |                          |               | Water Delivered             |                             |                             |               |
|-----------------------------|-----------------------------|-----------------------------|-----------------------------|----------------|--------------------------|--------------------------|--------------------------|---------------|-----------------------------|-----------------------------|-----------------------------|---------------|
|                             | Allocated Component 2 Water | Allocated Component 3 Water | Allocated Component 4 Water | Total          | Component 2 Water Losses | Component 3 Water Losses | Component 4 Water Losses | Total         | Component 2 Water Delivered | Component 3 Water Delivered | Component 4 Water Delivered | Total         |
| <b>SWP Contractor</b>       |                             |                             |                             |                |                          |                          |                          |               |                             |                             |                             |               |
| Metropolitan                | 4,163                       | 10,421                      | -                           | 14,584         | 1,249                    | 3,126                    | -                        | 4,375         | 2,914                       | 7,295                       | -                           | 10,209        |
| Kern                        | 2,140                       | 5,357                       | 23,037                      | 30,534         | 642                      | 1,607                    | 6,911                    | 9,160         | 1,498                       | 3,750                       | 16,126                      | 21,374        |
| Alameda-Zone 7              | 176                         | 440                         | 700                         | 1,316          | 53                       | 132                      | 210                      | 395           | 123                         | 308                         | 490                         | 921           |
| Coachella                   | 301                         | 754                         | 1,019                       | 2,074          | 90                       | 226                      | 306                      | 622           | 211                         | 528                         | 713                         | 1,452         |
| Kings                       | 20                          | 51                          | 218                         | 289            | 6                        | 15                       | 65                       | 87            | 14                          | 36                          | 153                         | 202           |
| Desert                      | 121                         | 304                         | 1,307                       | 1,732          | 36                       | 91                       | 392                      | 520           | 85                          | 213                         | 915                         | 1,212         |
| Dudley Ridge                | 110                         | 274                         | 1,180                       | 1,564          | 33                       | 82                       | 354                      | 469           | 77                          | 192                         | 826                         | 1,095         |
| Empire                      | 7                           | 16                          | 70                          | 93             | 2                        | 5                        | 21                       | 28            | 5                           | 11                          | 49                          | 65            |
| Oak Flat                    | 12                          | 31                          | -                           | 43             | 4                        | 9                        | -                        | 13            | 8                           | 22                          | -                           | 30            |
| San Gorgonio                | 38                          | 94                          | 406                         | 538            | 11                       | 28                       | 122                      | 161           | 27                          | 66                          | 284                         | 377           |
| Santa Clara                 | 218                         | 545                         | 2,344                       | 3,107          | 65                       | 164                      | 703                      | 932           | 153                         | 382                         | 1,641                       | 2,175         |
| Tulare                      | 194                         | 485                         | 2,084                       | 2,763          | 58                       | 146                      | 625                      | 829           | 136                         | 340                         | 1,459                       | 1,934         |
| <i>SWP Contractor Total</i> |                             |                             |                             |                |                          |                          |                          |               |                             |                             |                             |               |
| San Luis & Delta-Mendota    | 7,500                       | 18,772                      | 32,365                      | 58,637         | 2,250                    | 5,632                    | 9,710                    | 17,591        | 5,250                       | 13,140                      | 22,656                      | 41,046        |
| <b>Grand Total</b>          | <b>15,000</b>               | <b>37,544</b>               | <b>64,730</b>               | <b>117,274</b> | <b>4,500</b>             | <b>11,263</b>            | <b>19,419</b>            | <b>35,182</b> | <b>10,395</b>               | <b>26,018</b>               | <b>44,858</b>               | <b>81,271</b> |

<sup>a</sup> Non-SWP water conveyed by DWR through the California Aqueduct will have a 2 percent conveyance loss if the delivery point is within Reach 3, and 3 percent if the delivery point is within Reaches 4, 5, 6, or 7.

Rag Gulch consolidated under Kern-Tulare. DWR approved assignment of Rag Gulch's Interim Renewal Contract to Kern-Tulare on April 7, 2009.

During 2013, DWR conveyed a total of 36,975 af of CVP water for CVC water contractors under CVC Contracts as follows:

- Fresno, 18,843 af (SWPAO #12301);
- County of Tulare, 1,062 af (SWPAO #12302);
- Hills Valley, 630 af (SWPAO #12303);
- Kern-Tulare, 4,000 af (SWPAO #13302);
- Lower Tule, 6,220 af (SWPAO #13303); and
- Pixley, 6,220 af (SWPAO #13304).

### **Reclamation and Kern National Wildlife Refuge—U.S. Fish and Wildlife Service**

A letter agreement sent by DWR on September 17, 2012, and accepted by Reclamation on September 21, 2012, provided for DWR to deliver up to 30,500 af of CVP water to the Kern National Wildlife Refuge during the term of June 1, 2012, through September 30, 2028. Under this agreement, DWR conveys CVP water from the end of Reach 7 to Buena Vista's turnouts in Reaches 10A and 12E of the California Aqueduct. DWR conveyed a total of 20,176 af during 2013. (SWPAO #12309)

### **Reclamation and San Joaquin Valley National Cemetery—U.S. Department of Veterans Affairs**

A pending letter agreement among DWR, Reclamation, and the U.S. Department of Veterans Affairs provides for the conveyance of up to 850 af of CVP water to Reach 2B of the California Aqueduct for the U.S. Department of Veterans Affairs' San Joaquin Valley National Cemetery. DWR delivered a total of 247 af to the national cemetery through Reach 2B of the California Aqueduct in 2013 under this pending agreement. (SWPAO #10310)

### **San Luis & Delta-Mendota Water Authority—Oakdale Irrigation District and South San Joaquin Irrigation District**

An agreement among DWR, San Luis & Delta-Mendota Water Authority, Oakdale Irrigation District (Oakdale), and South San Joaquin Irrigation District (South San Joaquin) was executed on April 8, 2013. Oakdale and South San Joaquin agreed to release up to 80,000 af of water from Goodwin Dam, operated by Reclamation, to augment flows in the Stanislaus and San Joaquin rivers to benefit migratory fish between April 5 and May 29, 2013. The agreement also had a coincidental effect of increasing water supply conditions in the Delta to benefit both SWP and CVP operations. (SWPAO #13029)

## **Water Deliveries**

### **Table A Deliveries**

Each year, by October 1, the SWP water contractors submit initial requests for Table A deliveries allocated to them for use in the subsequent calendar year. Initial Table A allocation amounts for the coming year are made by DWR in December. They are based on operations studies that assume 90 percent exceedence of historical water supply (where exceedence refers to the possibility that water supply in the coming year will be exceeded by the historical water supply), current reservoir storage, and total requests by the SWP water contractors. Forecasts for the year are updated as hydrologic conditions change. Table A amounts are increased or decreased depending on both actual and projected hydrologic conditions, though decreases are rare as the 90 percent exceedence criterion is fairly conservative.

On October 1, 2012, SWP water contractors submitted initial requests for 2013 totaling 4.17 million acre-feet (maf).

DWR approved delivery of 1.25 maf on November 29, 2012, resulting in initial Table A amounts of 30 percent of most SWP water contractor requests. DWR increased the 2013 Table A amounts to 1.46 maf, for a final allocation of 35 percent, on March 22, 2013. Table 9-7 lists the changes in Table A amounts that were approved by DWR based on updated hydrologic conditions.

## 2013 SWP Deliveries

The SWP delivers water for a variety of beneficial uses. In addition to delivering Table A water to SWP water contractors, the SWP:

- conveys water to other public and local agencies through special contracts and agreements;
- provides water for wildlife and recreational uses; and
- stores, releases, and delivers local runoff water from SWP facilities to agencies that hold local water rights.

In 2013, 3,371,000 af of SWP and non-SWP water was delivered to 29 long-term SWP water contractors and 23 other agencies.

The portion delivered to the SWP water contractors was 2,108,416 af, categorized as follows:

- 1,084,692 af of Table A water;
- 54,115 af of transferred Table A water;
- 32,329 af of exchanged Table A water;
- 98,732 af of Turn-back Pool A water;

**Table 9-7 2013 Allocated Table A Amounts**

| Notice to SWP Contractors No. | Allocation Amount (maf) | Percentage of Requested Water |
|-------------------------------|-------------------------|-------------------------------|
| 12-11                         | 1.25                    | 30                            |
| 12-12                         | 1.67                    | 40                            |
| 13-09                         | 1.46                    | 35                            |

- 350,555 af of carryover water;
- 326,050 af recovered from water banks and delivery of backup water;
- 1,752 af of settlement water;
- 2 af of SWP water for recreation and fish and wildlife;
- 41,048 af of 2013 Yuba Accord Dry Year Purchase Program water;
- 8,048 af of local water;
- 67,410 af of Other Temporary Transfer Programs;
- 30,299 af of general conveyance water;
- 842 af of operations exchange water;
- 1,085 af of transfer water; and
- 11,457 af of permit water.

The remaining portion was delivered to 23 non-SWP agencies and totaled 1,262,584 af, which was categorized accordingly:

- 1,192,836 af of local water;
- 1,639 af recreation and fish and wildlife; and
- 68,109 af delivered to satisfy agreements between the SWP and CVP.

Figure 9-1 shows amounts of water delivered to various locations during 2013.

Specific information about water deliveries made to SWP water contractors and other agencies during 2013, and historical deliveries from 1962 through 2013, is presented in the following three sections, each with a corresponding table located at the end of the chapter:

- Water Delivered to Long-term SWP Water Supply Contractors in 2013, by Service Area (Table 9-8);
- Total Amounts of Water Delivered in 2013, by Month (Table 9-9); and
- Total Amounts of Annual Table A Water and Water Conveyed, by Type, 1962–2013 (Table 9-10).



**Figure 9-1 Water Delivered in 2013 and Delivery Locations of Long-term Water Supply Contractors and Feather River Area Districts with Water Rights Agreements with DWR**

Please note that the water delivery figures listed are accurate at the time of this Bulletin 132 publication, but small volumes of water may be reclassified over time pursuant to long-term water supply contract provisions. If your research requires more current data than was available at the time of publication, please consult the most recent edition of Bulletin 132 and/or contact DWR staff in the State Water Project Analysis Office.

## 2013 Water Deliveries to Long-term SWP Water Contractors

Table 9-8 shows amounts delivered in 2013 by service area. The following information is arranged by column number.

### Table A Water Delivered

Columns 1 through 6 show a detailed breakdown of Table A water delivered for SWP water contractors in 2013.

### Turn-Back Pool Water

Column 4 shows 98,732 af of Turn-Back Pool Water delivered to SWP water contractors in 2013.

### Carryover Table A Water Delivered in 2013

Column 5 shows a total of 350,555 af was carried over from previous years for delivery in 2013.

The carryover program was designed to encourage the most effective and beneficial use of water and to avoid obligating the contractors to use or lose water by December 31 of each year. The SWP water contractors' long-term contracts and amendments state the criteria for carrying over Table A water from one year to the next under Articles 12(e), 14(b), and 56(c).

### Total Table A Water Delivered

Column 6 shows all Table A water delivered in 2013—a total of 1,620,423 af.

### Article 21

Column 7 shows Article 21 water delivered to SWP water contractors. In 2013, no Article 21 water was delivered.

### Other SWP Water

Column 8 shows 1,752 af of other SWP water. Other SWP water consist of settlement water delivered to Solano.

### Total SWP Water Delivered

Column 9 shows 1,622,175 af of total SWP water was delivered in 2013. This includes total Table A water, Table A carryover water, Turn-Back Pool Program water, and other SWP water consisting of settlement water.

### Non-SWP Water Deliveries

Columns 10 and 11 include deliveries of non-SWP water to long-term water contractors. Column 10 shows 326,050 af of water bank recovery water and delivery of previously backed up water. Column 11 shows 160,191 af of other non-SWP water. Other non-SWP water is local and permit water that an SWP water contractor has a water right to, or has purchased from, exchanged with, or transferred from non-SWP agencies.

### Total Deliveries

Column 12 shows total amounts of water delivered to SWP water contractors. In 2013, the SWP delivered 2,108,416 af of water to 29 long-term contractors.

### Water Delivered in 2013 by Month

During 2013, the SWP provided water service to 52 agencies, including 29 long-term SWP water contractors. Those agencies and the amounts of water delivered to them by month are listed in Table 9-9 and are summarized below as SWP water and non-SWP water.

## SWP Water

SWP water, as defined in the long-term water supply contracts, includes Article 21 water, carryover Table A water, current year Table A amounts, transfer and exchange of Table A water, and Turn-Back Pools A and B. Detailed information concerning those conveyances for 2013 is found under the "Miscellaneous Agreements with Long-term SWP Water Contractors" section in this chapter.

## Non-SWP Water

In 2013, DWR used SWP facilities to convey non-SWP water for various agencies according to the terms of water rights and water transfer and exchange agreements. Detailed information concerning those conveyances is in this chapter.

**Last Chance Creek Water District.** Under the water supply agreement between DWR and Last Chance Creek Water District, dated April 29, 2013, a total of 6,335 af was supplied from Frenchman Lake to Last Chance Creek Water District.

**Water Rights Water.** Water in this category is transported through SWP facilities to agencies with settlement agreements with DWR. Some water passes through SWP transportation facilities; some is stored in SWP reservoirs for release later. In 2013, the following water was delivered to the Feather River, Delta, North Bay, South Bay, and Southern California areas, as summarized below.

**Feather River Area.** Seven non-SWP agencies received 1,153,224 af, under their water right settlement agreements, as follows:

- Western Canal Water District, 356,202 af;
- Joint Water Districts Board, 768,365 af;
- Oswald Water District, 1,312 af;
- Tudor Mutual Water Company, 3,223 af;

- Garden Highway Mutual Water Company, 14,078 af;
- Plumas Mutual Water Company, 9,265 af; and
- Valberde and Ramelli, 779 af.

DWR conveyed local water totaling 7,076 af through SWP facilities on behalf of two non-SWP agencies:

- Thermalito Water and Sewer District (formerly Thermalito Irrigation District), 2,173 af and
- South Feather Water and Power Agency (formerly Oroville-Wyandotte Irrigation District), 4,903 af.

**Delta.** In the Delta, 26,201 af of water was delivered to Byron Bethany pursuant to the May 28, 2003, *Agreement Between the Department of Water Resources of the State of California and the Byron-Bethany Irrigation District Regarding the Diversion of Water from the Delta*.

**North Bay Area.** Deliveries in the North Bay area included 500 af of Vallejo permit water delivered to Solano, and 1,752 af of water delivered pursuant to the May 19, 2003, *Settlement Agreement among DWR, Solano County Water Agency, and the Cities of Fairfield, Vacaville, and Benicia*.

**South Bay Area.** In the South Bay area, a total of 7,960 af of local water was delivered to Alameda-Zone 7 and Alameda County. These two South Bay Aqueduct SWP water contractors hold water rights to runoff from the Lake del Valle watershed.

**Southern California Area.** In the Southern California area, 0 af of local runoff from the Houston Creek watershed was stored and delivered to Crestline-Lake Arrowhead Water Agency (Crestline) under water rights held by DWR on Houston Creek. The authorized place of use is limited to the Crestline Lake Arrowhead area.

## Annual Table A Water and Water Delivered Since 1962

Information about 2013 annual Table A water and water conveyed, by type, for the previous 50 years is contained in Table 9-10. The following discussion of conveyed Table A water is arranged according to column numbers.

### Annual Table A Water

Columns 1 through 7 of Table 9-10 show the amount of SWP water contractors' annual Table A water by area for years 1962 through 2013 as specified in the Table A schedules of the long-term water supply contracts.

In some instances, Table A schedules—projections of each contractor's need for water to 2035—have been amended to meet the needs of individual contractors. The amounts of annual Table A water each SWP water contractor may request for years 1962 through 2035 can be found in Table B-4 in Appendix B in the back of this bulletin.

### Water Delivered

Columns 8 through 16 show water delivered or conveyed, including initial fill water and operational losses and storage changes.

**Table A Water.** Column 8 shows amounts of Table A water delivered each year from 1962 through 2013. In 2013, a total of 1,620,423 af of Table A water was delivered.

### Article 21 and Unscheduled Water.

Column 9 shows amounts of Article 21 water, as defined under SWP deliveries, and unscheduled water delivered from 1962 through 2013. Article 21 and unscheduled water are water in excess of that required to meet all demands for the year's Table A water and water to be stored in SWP reservoirs. In 2013, no Article 21 or unscheduled water was delivered.

**Other Water.** Column 10 includes amounts of water classified as other water delivered in 2013, including non-SWP water conveyed through SWP facilities and regulated delivery of local supply. In 2013, a total of 582,301 af of other water was delivered.

**Feather River Diversions.** Column 11 includes amounts of water from the Feather River delivered according to agreements with non-SWP agencies on the Feather River, including Last Chance Creek Water District. In 2013, a total of 1,166,635 af in this category was delivered to agencies in the Feather River area.

**Recreation Water.** Column 12 shows water conveyed for recreational use or to improve water quality for fish and wildlife. In 2013, a total of 1,641 af of SWP water was conveyed for this purpose.

**Initial Fill Water.** The quantities listed in Column 14 represent the amounts used to initially fill the aqueducts and reservoirs south of the Delta to maximum operating capacities. Initial filling began in 1962, with the filling of the SBA, and was completed in 1979, when Lake Perris reached its maximum operating capacity of 127,000 af. In 1996 and 1997, the Coastal Aqueduct was initially filled.

**Operational Losses.** Column 15 includes the total amounts of water lost through evaporation and seepage, net storage changes in reservoirs south of the Delta, and amounts of inflow from local drainage areas, including inflows into San Luis Canal and from the Kern River Intertie. Negative values are indicated for years when withdrawals and evaporation from reservoirs south of the Delta exceed the amounts of water added to the reservoirs.

**Table 9-8 Water Delivered to Long-term SWP Contractors in 2013, by Service Area (acre-feet)<sup>a</sup>**

| SWP Contractor             | Table A Water Deliveries                              |   |                         |                          |                     |                   | SWP Water           |                     |                     | Non-SWP Water            |                          |                            |
|----------------------------|---|---|-------------------------|--------------------------|---------------------|-------------------|---------------------|---------------------|---------------------|--------------------------|--------------------------|----------------------------|
|                            | 2013 Table A Not Transferred, Exchanged or Stored [1] | 2013 Table A Transferred or Exchanged [2] | 2013 Table A Stored [3] | 2013 Turn-Back Pools [4] | Carryover Water [5] | Total Table A [6] | 2013 Article 21 [7] | Other SWP Water [8] | Total SWP Water [9] | Water Bank Recovery [10] | Other Non-SWP Water [11] | Total Water Delivered [12] |
| <b>Feather River</b>       |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| Butte                      | 908   | 8,325                                     | -                       | -                        | -                   | 9,233             | -                   | -                   | 9,233               | -                        | 2                        | 9,235                      |
| Plumas                     | 366   | -   | -                       | -                        | -                   | 366               | -                   | -                   | 366                 | -                        | -                        | 366                        |
| Yuba City                  | 3,360   | -   | -                       | -                        | 1,490               | 4,850             | -                   | -                   | 4,850               | -                        | -                        | 4,850                      |
| <b>North Bay</b>           |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| Napa                       | 2,903   | 60  | -                       | -                        | 9,075               | 12,038            | -                   | -                   | 12,038              | -                        | -                        | 12,038                     |
| Solano                     | 5,355   | -   | -                       | -                        | 17,805              | 23,160            | -                   | 1,752               | 24,912              | -                        | 11,457                   | 36,369                     |
| <b>South Bay</b>           |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| Alameda-Zone 7             | 14,059  | -   | -                       | 2,596                    | 21,042              | 37,697            | -                   | -                   | 37,697              | 4,000                    | 11,119                   | 52,816                     |
| Alameda County             | 4,241   | -   | -                       | 50                       | 15,349              | 19,640            | -                   | -                   | 19,640              | 4,000                    | 88                       | 23,728                     |
| Santa Clara                | 9,353   | -   | -                       | 10,749                   | 16,261              | 36,363            | -                   | -                   | 36,363              | 45,000                   | 3,260                    | 84,623                     |
| <b>San Joaquin Valley</b>  |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| Kings                      | 1,437   | 1,414                                     | -                       | 1,000                    | 591                 | 4,442             | -                   | -                   | 4,442               | -                        | 203                      | 4,645                      |
| Dudley Ridge               | -   | 6,113                                     | -                       | 5,412                    | 9,815               | 21,340            | -                   | -                   | 21,340              | 3,365                    | 5,241                    | 29,946                     |
| Emprise                    | 32  | 972                                       | -                       | 16                       | 482                 | 1,502             | -                   | -                   | 1,502               | -                        | 65                       | 1,567                      |
| Kern                       | 236,482   | 11,504                                    | -                       | 37,005                   | 73,303              | 358,294           | -                   | -                   | 358,294             | 164,925                  | 90,987                   | 614,206                    |
| Oak Flat                   | 583   | -   | -                       | 7                        | 2,200               | 2,790             | -                   | -                   | 2,790               | -                        | 30                       | 2,820                      |
| Tulare                     | 12,074  | 15,729                                    | -                       | 8,400                    | 4,169               | 40,372            | -                   | -                   | 40,372              | -                        | -                        | 48,361                     |
| <b>Central Coastal</b>     |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| San Luis Obispo            | 1,178   | -   | -                       | -                        | 2,503               | 3,681             | -                   | -                   | 3,681               | -                        | -                        | 3,681                      |
| Santa Barbara              | 3,252   | -   | -                       | -                        | 12,233              | 15,485            | -                   | -                   | 15,485              | -                        | -                        | 15,485                     |
| <b>Southern California</b> |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          |                            |
| AV/EK                      | 37,628  | -   | -                       | -                        | 13,386              | 51,014            | -                   | -                   | 51,014              | -                        | -                        | 51,014                     |
| Castaic Lake               | 20,143  | 13,177                                    | -                       | -                        | 28,434              | 61,754            | -                   | -                   | 61,754              | -                        | -                        | 61,754                     |
| Coachella                  | 48,423  | -   | -                       | 164                      | -                   | 48,587            | -                   | -                   | 48,587              | -                        | -                        | 48,587                     |
| Crestline                  | 1,368   | -   | -                       | -                        | 2,000               | 3,368             | -                   | -                   | 3,368               | -                        | -                        | 3,368                      |
| Desert                     | 19,513  | -   | -                       | 66                       | -                   | 19,579            | -                   | -                   | 19,579              | -                        | -                        | 19,579                     |
| Littlerock                 | -   | -   | -                       | -                        | -                   | -                 | -                   | -                   | -                   | -                        | -                        | -                          |
| Metropolitan               | 613,271   | 6,592                                     | -                       | 32,267                   | 106,288             | 758,418           | -                   | -                   | 758,418             | 103,260                  | 10,209                   | 871,887                    |
| Mojave                     | 4,598   | 20,696                                    | -                       | -                        | 2,852               | 28,146            | -                   | -                   | 28,146              | -                        | -                        | 28,146                     |
| Palmdale                   | 4,197   | 362                                       | -                       | -                        | 3,122               | 7,681             | -                   | -                   | 7,681               | -                        | -                        | 7,681                      |
| San Bernardino             | 26,159  | -   | -                       | -                        | 4,426               | 30,585            | -                   | -                   | 30,585              | 1,500                    | -                        | 32,085                     |
| San Gabriel                | 8,580   | 1,500                                     | -                       | -                        | -                   | 10,080            | -                   | -                   | 10,080              | -                        | -                        | 10,080                     |
| San Gorgonio               | 2,339   | -   | -                       | 1,000                    | 3,729               | 7,068             | -                   | -                   | 7,068               | -                        | 377                      | 7,445                      |
| Ventura                    | 2,890   | -   | -                       | -                        | -                   | 2,890             | -                   | -                   | 2,890               | -                        | -                        | 2,890                      |
| <b>Total</b>               | <b>1,084,692</b>                                      | <b>86,444</b>                             |                         |                          | <b>98,732</b>       | <b>350,555</b>    | <b>1,620,423</b>    | <b>—</b>            | <b>1,752</b>        | <b>1,622,175</b>         | <b>326,050</b>           | <b>160,191</b>             |
|                            |   |   |                         |                          |                     |                   |                     |                     |                     |                          |                          | <b>2,108,416</b>           |

<sup>a</sup> Please note that the water delivery figures listed are accurate at the time of this Bulletin 132 publication, but small volumes of water may be reclassified over time pursuant to long-term water supply contract provisions. If your research requires more current data than was available at the time of publication, please consult the most recent publication of Bulletin 132 and/or contact

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service                      | Jan    | Feb | Mar   | Apr    | May     | Jun     | Jul     | Aug    | Sep    | Oct    | Nov    | Dec    | 2013 Total Deliveries |
|---|--------|-----|-------|--------|---------|---------|---------|--------|--------|--------|--------|--------|-----------------------|
| <b>FEATHER RIVER AREA</b>                                   |        |     |       |        |         |         |         |        |        |        |        |        |                       |
| <i>SWP Agencies</i>   |        |     |       |        |         |         |         |        |        |        |        |        |                       |
| City of Yuba City   | 0      | 0   | 0     | 0      | 42      | 1,205   | 1,465   | 648    | 0      | 0      | 0      | 0      | 3,360                 |
| Table A   | 0      | 0   | 0     | 0      | 0       | 0       | 0       | 568    | 78     | 536    | 257    | 51     | 1,490                 |
| Carryover Water   | 0      | 0   | 0     | 0      | 42      | 1,205   | 1,465   | 1,216  | 78     | 536    | 257    | 51     | 4,850                 |
| Yuba Total  | 0      | 0   | 0     | 0      |         |         |         |        |        |        |        |        |                       |
| County of Butte   | 11     | 5   | 7     | 35     | 30      | 21      | 210     | 250    | 205    | 45     | 55     | 34     | 908                   |
| Table A Transfer to Palmdale, Dudley Ridge, and Kern*       | 0      | 0   | 1,100 | 0      | 0       | 0       | 5,606   | 1,377  | 242    | 0      | 0      | 0      | 8,325                 |
| Recreation/Fish and Wildlife (SWP)                          | 0      | 0   | 0     | 0      | 1       | 0       | 0       | 1      | 0      | 0      | 0      | 0      | 2                     |
| Butte Recreation/Fish and Wildlife                          | 0      | 5   | 7     | 35     | 31      | 21      | 210     | 251    | 205    | 45     | 55     | 34     | 910                   |
| Butte Total (*excluded from total)                          | 11     |     |       |        |         |         |         |        |        |        |        |        |                       |
| Plumas County Flood Control and Water Conservation District | 0      | 0   | 0     | 0      | 31      | 114     | 55      | 55     | 78     | 33     | 0      | 0      | 366                   |
| Table A   | 0      | 0   | 0     | 0      | 31      | 114     | 55      | 55     | 78     | 33     | 0      | 0      | 366                   |
| Plumas Total  | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| <i>Non-SWP Agencies</i>                                     |        |     |       |        |         |         |         |        |        |        |        |        |                       |
| Garden Highway Mutual Water Company                         | 0      | 0   | 0     | 2,557  | 2,623   | 2,971   | 3,010   | 752    | 86     | 1,994  | 85     | 0      | 14,078                |
| Regulated delivery of local supply                          | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| Joint Water Districts Board                                 | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| Regulated delivery of local supply                          | 29,120 | 0   | 1,850 | 41,060 | 120,452 | 115,419 | 121,836 | 96,738 | 34,860 | 49,970 | 88,680 | 68,380 | 768,365               |
| Last Chance Creek Water District                            | 0      | 0   | 0     | 0      | 2,277   | 2,380   | 0       | 1,319  | 123    | 188    | 48     | 0      | 6,335                 |
| Oswald Water District                                       | 0      | 0   | 82    | 159    | 256     | 206     | 274     | 181    | 154    | 0      | 0      | 0      | 1,312                 |
| Regulated delivery of local supply                          | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| Plumas Mutual Water Company                                 | 0      | 0   | 198   | 1,099  | 1,724   | 1,472   | 1,907   | 1,354  | 899    | 370    | 185    | 57     | 9,255                 |
| Regulated delivery of local supply                          | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| South Feather Water and Power Agency                        | 1      | 73  | 94    | 222    | 740     | 762     | 813     | 799    | 684    | 359    | 177    | 179    | 4,903                 |
| Regulated delivery of local supply                          | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| Thermalito Water and Sewer District                         | 82     | 68  | 101   | 144    | 240     | 269     | 302     | 275    | 254    | 202    | 121    | 115    | 2,173                 |
| Regulated delivery of local supply                          | 0      | 0   | 78    | 315    | 591     | 511     | 788     | 485    | 391    | 64     | 0      | 0      | 3,223                 |
| Regulated delivery of local supply                          | 0      |     |       |        |         |         |         |        |        |        |        |        |                       |
| Western Canal Water District                                | 8,777  | 0   | 0     | 14,418 | 61,076  | 52,525  | 63,673  | 41,087 | 7,890  | 38,819 | 41,876 | 26,061 | 356,202               |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service                               | Jan           | Feb          | Mar          | Apr           | May            | Jun            | Jul            | Aug            | Sep           | Oct           | Nov            | Dec           | 2013 Total Deliveries |
|--|---------------|--------------|--------------|---------------|----------------|----------------|----------------|----------------|---------------|---------------|----------------|---------------|-----------------------|
| Valberde and Ramelli   | 0             | 0            | 0            | 22            | 110            | 94             | 129            | 180            | 125           | 119           | 0              | 0             | 779                   |
| Regulated delivery of local supply                                   | 11            | 5            | 7            | 35            | 104            | 1,340          | 1,730          | 1,522          | 361           | 614           | 312            | 85            | 6,126                 |
| <b>SWP</b>   |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Non-SWP  | 37,980        | 141          | 2,403        | 59,996        | 190,089        | 176,609        | 192,732        | 143,170        | 45,466        | 92,085        | 131,172        | 94,792        | 1,166,635             |
| <b>Feather River Area Total</b>                                      | <b>37,991</b> | <b>146</b>   | <b>2,410</b> | <b>60,031</b> | <b>190,193</b> | <b>177,949</b> | <b>194,462</b> | <b>144,692</b> | <b>45,827</b> | <b>92,659</b> | <b>131,484</b> | <b>94,877</b> | <b>1,172,761</b>      |
| <b>NORTH BAY AREA</b>  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| <i>SWP Agencies</i>  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Napa County Flood Control and Water Conservation District            | 0             | 0            | 0            | 0             | 0              | 0              | 500            | 686            | 644           | 541           | 532            | 0             | 0                     |
| Table A  |               |              |              |               |                |                |                |                |               |               |                |               | 2,903                 |
| Table A Point of Delivery to Solano*                                 | 0             | 0            | 0            | 4             | 13             | 11             | 8              | 16             | 6             | 2             | 0              | 0             | 60                    |
| Carryover Water  | 916           | 913          | 443          | 1,215         | 1,667          | 987            | 0              | 0              | 0             | 491           | 1,254          | 1,189         | 9,075                 |
| Permit Water   | 0             | 0            | 0            | 0             | 0              | 0              | 200            | 200            | 100           | 0             | 0              | 0             | 500                   |
| Napa Total (*excluded from total)                                    | 916           | 913          | 443          | 1,215         | 1,667          | 1,487          | 886            | 844            | 641           | 1,023         | 1,254          | 1,189         | 12,478                |
| Solano County Water Agency   | 0             | 0            | 0            | 0             | 0              | 0              | 62             | 1,193          | 624           | 2,841         | 596            | 39            | 5,355                 |
| Table A  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Table A Point of Delivery from Napa                                  | 0             | 0            | 0            | 4             | 13             | 11             | 8              | 16             | 6             | 2             | 0              | 0             | 60                    |
| Carryover Water  | 0             | 0            | 0            | 0             | 0              | 0              | 3,326          | 3,803          | 3,682         | 2,587         | 2,703          | 385           | 521                   |
| Settlement Water   | 0             | 190          | 169          | 918           | 475            | 0              | 0              | 0              | 0             | 0             | 0              | 0             | 1,752                 |
| Permit Water   | 0             | 12           | 0            | 111           | 726            | 1,047          | 1,545          | 1,711          | 1,517         | 1,583         | 1,372          | 1,333         | 10,957                |
| Vallejo Permit to Napa*  | 0             | 0            | 0            | 0             | 0              | 0              | 0              | 200            | 200           | 100           | 0              | 0             | 500                   |
| Solano Total (*excluded from total)                                  | 0             | 202          | 169          | 1,033         | 4,540          | 4,861          | 5,297          | 5,507          | 4,850         | 4,811         | 2,489          | 2,170         | 35,929                |
| <b>SWP</b>   |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Non-SWP Water  | 0             | 12           | 0            | 111           | 726            | 1,047          | 1,745          | 1,911          | 1,617         | 1,583         | 1,372          | 1,333         | 11,457                |
| <b>North Bay Area Total</b>  | <b>916</b>    | <b>1,115</b> | <b>612</b>   | <b>2,248</b>  | <b>6,207</b>   | <b>6,183</b>   | <b>6,348</b>   | <b>6,351</b>   | <b>5,491</b>  | <b>5,834</b>  | <b>3,743</b>   | <b>3,359</b>  | <b>48,407</b>         |
| <b>SOUTH BAY AREA</b>  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| <i>SWP Agencies</i>  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Alameda County Flood Control and Water Conservation District, Zone 7 | 0             | 0            | 444          | 230           | 1,289          | 1,597          | 2,035          | 1,801          | 1,921         | 567           | 873            | 1,236         | 11,993                |
| Table A  |               |              |              |               |                |                |                |                |               |               |                |               |                       |
| Pool Program Water   | 0             | 0            | 0            | 0             | 0              | 0              | 1,000          | 1,200          | 396           | 0             | 0              | 0             | 2,596                 |
| Carryover Water  | 0             | 0            | 0            | 0             | 0              | 0              | 0              | 0              | 0             | 179           | 0              | 0             | 179                   |
| Water Bank Recovery  | 191           | 1,909        | 2,417        | 2,579         | 2,849          | 3,497          | 2,848          | 605            | 195           | 1,714         | 1,553          | 0             | 20,357                |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service  | Jan          | Feb          | Mar           | Apr           | May           | Jun           | Jul           | Aug           | Sep           | Oct           | Nov           | Dec          | 2013 Total Deliveries |
|---|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|--------------|-----------------------|
| Local Water                             | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 402           | 0             | 0            | 402                   |
| Transfer from Byron Bethany ID          | 181          | 972          | 710           | 292           | 348           | 235           | 240           | 2,353         | 3,186         | 2,489         | 367           | 108          | 11,481                |
| Dry Year Purchase Program               | 0            | 0            | 0             | 0             | 0             | 0             | 1,000         | 1,000         | 0             | 0             | 0             | 0            | 2,000                 |
| Alameda-Zone 7 Total                    | 372          | 2,881        | 3,571         | 3,101         | 4,486         | 5,329         | 6,123         | 5,759         | 5,302         | 5,351         | 2,793         | 1,344        | 46,412                |
| Alameda County Water District           |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Table A                                 | 0            | 0            | 0             | 0             | 0             | 937           | 231           | 658           | 0             | 0             | 1,395         | 1,020        | 4,241                 |
| Pool Program Water                      | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 50            | 0             | 0             | 0             | 0            | 50                    |
| Carryover Water                         | 1,184        | 1,473        | 1,751         | 1,981         | 493           | 1,222         | 778           | 1,324         | 2,433         | 2,474         | 236           | 0            | 15,349                |
| Water Bank Recovery                     | 0            | 0            | 0             | 0             | 1,000         | 1,000         | 1,000         | 1,000         | 0             | 0             | 0             | 0            | 4,000                 |
| Local Water                             | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 88           | 88                    |
| Alameda County Total                    | 1,184        | 1,473        | 1,751         | 1,981         | 2,430         | 2,453         | 2,486         | 2,324         | 2,433         | 2,474         | 1,631         | 1,108        | 23,728                |
| Santa Clara Valley Water District       |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Table A                                 | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0             | 0            | 9,353                 |
| Pool Program Water                      | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 0             | 857           | 2,215         | 7,637         | 40           | 0                     |
| Carryover Water                         | 2,213        | 4,211        | 3,953         | 3,110         | 2,200         | 0             | 0             | 0             | 0             | 0             | 574           | 0            | 16,261                |
| Water Bank Recovery                     | 0            | 0            | 0             | 4,000         | 4,221         | 7,377         | 9,774         | 8,996         | 7,308         | 1,255         | 2,069         | 0            | 45,000                |
| Transfer From Browns Valley ID          | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 1,085         | 0             | 0             | 0             | 0            | 1,085                 |
| Dry Year Purchase Program               | 0            | 0            | 0             | 0             | 0             | 0             | 0             | 0             | 1,000         | 1,175         | 0             | 0            | 2,175                 |
| Santa Clara Total                       | 2,213        | 4,211        | 3,953         | 7,110         | 6,421         | 7,377         | 10,859        | 10,853        | 10,698        | 8,892         | 7,621         | 4,415        | 84,623                |
| Non-SWP Agencies                        |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Byron Bethany Irrigation District       |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Regulated delivery of local supply      |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Recreation/Fish and Wildlife (SWP)      |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Lake del Valle                          | 2            | 3            | 12            | 11            | 10            | 14            | 25            | 22            | 22            | 10            | 4             | 2            | 137                   |
| SWP                                     | 4,681        | 7,272        | 8,750         | 13,611        | 14,602        | 15,191        | 16,968        | 16,652        | 14,033        | 14,955        | 12,594        | 7,528        | 146,837               |
| Non-SWP                                 | 196          | 694          | 2,937         | 2,745         | 4,429         | 4,513         | 6,919         | 6,288         | 7,206         | 3,167         | 745           | 829          | 40,668                |
| <b>South Bay Area Total</b>             | <b>4,877</b> | <b>7,966</b> | <b>11,687</b> | <b>16,356</b> | <b>19,031</b> | <b>19,704</b> | <b>23,887</b> | <b>22,940</b> | <b>21,239</b> | <b>18,122</b> | <b>13,339</b> | <b>8,357</b> | <b>187,505</b>        |
| SAN JOAQUIN VALLEY AREA                 |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| SWP Agencies                            |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| County of Kings                         |              |              |               |               |               |               |               |               |               |               |               |              |                       |
| Table A                                 | 0            | 0            | 0             | 0             | 2             | 0             | 1,328         | 0             | 107           | 0             | 0             | 0            | 1,437                 |
| Table A Point of Delivery to Westlands* | 0            | 0            | 0             | 0             | 0             | 0             | 296           | 347           | 0             | 232           | 142           | 155          | 1,414                 |
| Pool Program Water                      | 0            | 0            | 0             | 0             | 0             | 0             | 5             | 634           | 321           | 34            | 0             | 0            | 994                   |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

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| Contracting Agency and Type of Service      | Jan | Feb   | Mar | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov | Dec | Total Deliveries |
|---|-----|-------|-----|--------|--------|--------|--------|--------|--------|--------|-----|-----|------------------|
| Pool Program Water to Westlands*            | 0   | 0     | 0   | 0      | 6      | 0      | 0      | 0      | 0      | 0      | 0   | 0   | 6                |
| Carryover Water to Westlands*               | 72  | 92    | 142 | 241    | 34     | 0      | 0      | 2      | 2      | 0      | 3   | 3   | 591              |
| Dry Purchase Program                        | 0   | 0     | 0   | 0      | 0      | 0      | 84     | 7      | 0      | 0      | 0   | 0   | 91               |
| Dry Year Purchase Program to Westlands*     | 0   | 0     | 0   | 0      | 0      | 0      | 112    | 0      | 0      | 0      | 0   | 0   | 112              |
| Kings Total (*excluded from total)          | 0   | 0     | 2   | 0      | 1,333  | 830    | 435    | 34     | 0      | 0      | 0   | 0   | 2,634            |
| Dudley Ridge Water District                 |     |       |     |        |        |        |        |        |        |        |     |     |                  |
| Table A Received through Transfer           | 0   | 0     | 0   | 0      | 0      | 2,549  | 4,500  | 1,050  | 0      | 0      | 0   | 0   | 8,099            |
| Table A Transferred to Kern and Westlands*  | 0   | 0     | 0   | 0      | 0      | 0      | 4,941  | 0      | 0      | 0      | 500 | 0   | 5,441            |
| Table A from Butte                          | 0   | 0     | 0   | 0      | 0      | 0      | 243    | 242    | 242    | 0      | 0   | 0   | 727              |
| Table A Exchange from Kern                  | 0   | 0     | 0   | 0      | 291    | 291    | 292    | 0      | 0      | 0      | 0   | 0   | 874              |
| Table A Exchange to San Gabriel*            | 672 | 0     | 0   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0   | 0   | 672              |
| Table A Exchange from San Gabriel           | 0   | 0     | 0   | 1,000  | 500    | 0      | 0      | 0      | 0      | 0      | 0   | 0   | 1,500            |
| Pool Program Water                          | 0   | 0     | 0   | 0      | 0      | 0      | 60     | 2,942  | 1,501  | 909    | 0   | 0   | 5,412            |
| Carryover Water                             | 131 | 660   | 512 | 66     | 2,434  | 1,437  | 11     | 0      | 59     | 1,156  | 259 | 0   | 6,725            |
| Carryover Water to Kern*                    | 0   | 0     | 0   | 0      | 0      | 0      | 2,000  | 0      | 0      | 0      | 0   | 0   | 2,000            |
| Carryover Water to Santa Barbara*           | 0   | 0     | 0   | 0      | 0      | 0      | 0      | 1,090  | 0      | 0      | 0   | 0   | 1,090            |
| Water Bank Recovery to Kern*                | 0   | 0     | 0   | 0      | 0      | 0      | 2,365  | 1,000  | 0      | 0      | 0   | 0   | 3,365            |
| Yuba Transfer Program                       | 0   | 0     | 0   | 0      | 0      | 0      | 1,070  | 1,077  | 914    | 0      | 0   | 0   | 3,061            |
| Dry Year Purchase Program                   | 0   | 0     | 0   | 0      | 0      | 0      | 352    | 351    | 392    | 0      | 0   | 0   | 1,095            |
| General Conveyance Program                  | 0   | 0     | 0   | 0      | 0      | 0      | 362    | 362    | 361    | 0      | 0   | 0   | 1,085            |
| Dudley Ridge Total (*excluded from total)   | 131 | 660   | 512 | 1,066  | 3,225  | 4,277  | 6,890  | 6,024  | 3,469  | 2,065  | 259 | 0   | 28,578           |
| Empire West Side Irrigation District        |     |       |     |        |        |        |        |        |        |        |     |     |                  |
| Table A                                     | 0   | 0     | 32  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0   | 0   | 32               |
| Table A Transfer to Westlands*              | 0   | 0     | 0   | 0      | 280    | 441    | 251    | 0      | 0      | 0      | 0   | 0   | 972              |
| Pool Program Water                          | 0   | 0     | 0   | 0      | 0      | 0      | 0      | 16     | 0      | 0      | 0   | 0   | 16               |
| Carryover Water                             | 367 | 8     | 107 | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0   | 0   | 482              |
| Dry Year Purchase Program                   | 0   | 0     | 0   | 0      | 0      | 0      | 0      | 65     | 0      | 0      | 0   | 0   | 65               |
| Empire Total (*excluded from total)         | 367 | 8     | 139 | 0      | 0      | 0      | 0      | 81     | 0      | 0      | 0   | 0   | 595              |
| Kern County Water Agency                    |     |       |     |        |        |        |        |        |        |        |     |     |                  |
| Table A                                     | 0   | 2,637 | 0   | 17,944 | 37,714 | 42,958 | 76,373 | 13,533 | 12,903 | 32,420 | 0   | 0   | 236,482          |
| Table A Point of Delivery to Western Hills* | 30  | 31    | 60  | 61     | 135    | 157    | 173    | 163    | 135    | 95     | 88  | 28  | 1,156            |
| Table A from Metropolitan                   | 0   | 0     | 0   | 198    | 920    | 14     | 1,294  | 2,980  | 1,186  | 0      | 0   | 0   | 6,592            |
| Table A Transfer to Dudley Ridge            | 0   | 0     | 0   | 0      | 0      | 0      | 4,941  | 0      | 0      | 0      | 0   | 0   | 4,941            |
| Table A Transfer to Westlands*              | 0   | 0     | 0   | 0      | 0      | 0      | 8,393  | 0      | 0      | 0      | 0   | 0   | 8,393            |
| Table A Transfer from Butte                 | 0   | 0     | 0   | 0      | 0      | 0      | 4,342  | 0      | 0      | 0      | 0   | 0   | 4,342            |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

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| Contracting Agency and Type of Service             | Jan     | Feb    | Mar    | Apr    | May    | Jun     | Jul     | Aug    | Sep    | Oct    | Nov    | Dec   | 2013 Total Deliveries |        |
|--|---------|--------|--------|--------|--------|---------|---------|--------|--------|--------|--------|-------|-----------------------|--------|
|  |         |        |        |        |        |         |         |        |        |        |        |       | Deliveries            |        |
| Table A Exchange from Castaic Lake                 | 0       | 0      | 0      | 0      | 0      | 0       | 1,677   | 5,500  | 0      | 0      | 0      | 0     | 0                     | 7,177  |
| Table A Exchange to Dudley Ridge*                  | 0       | 0      | 0      | 0      | 0      | 291     | 292     | 0      | 0      | 0      | 0      | 0     | 0                     | 874    |
| Table A Exchange to Santa Barbara*                 | 0       | 0      | 0      | 277    | 0      | 0       | 0       | 804    | 0      | 0      | 0      | 0     | 0                     | 1,081  |
| Pool Program Water                                 | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 20,000 | 15,840 | 0      | 1,165  | 0     | 0                     | 37,005 |
| Carryover Water                                    | 0       | 0      | 0      | 0      | 16,365 | 56,938  | 0       | 0      | 0      | 0      | 0      | 0     | 0                     | 73,303 |
| Carryover Water from Dudley Ridge and Castaic Lake | 0       | 0      | 0      | 0      | 0      | 0       | 5,823   | 0      | 0      | 0      | 0      | 0     | 0                     | 5,823  |
| Water Bank Recovery                                | 13,396  | 20,482 | 24,132 | 28,792 | 21,856 | 15,368  | 9,296   | 8,712  | 0      | 5,263  | 8,456  | 9,172 | 164,925               |        |
| Water Bank Recovery to Other SWP Agencies*         | 0       | 6,728  | 5,299  | 4,940  | 6,649  | 10,262  | 14,086  | 17,169 | 15,087 | 25,266 | 30,673 | 8,725 | 144,884               |        |
| Water Bank Recovery from Dudley Ridge              | 0       | 0      | 0      | 0      | 0      | 0       | 2,365   | 1,000  | 0      | 0      | 0      | 0     | 0                     | 3,365  |
| Transfer Program Water                             | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 20,737 | 31,797 | 9,577  | 0      | 0     | 0                     | 62,111 |
| Dry Year Purchase Program                          | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 7,125  | 7,125  | 7,124  | 0      | 0     | 0                     | 21,374 |
| Water delivered to Cross Valley Canal              | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 0      | 0      | 800    | 0      | 0     | 0                     | 800    |
| General Conveyance Program                         | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 700    | 1,900  | 4,060  | 0      | 0     | 0                     | 6,660  |
| General Conveyance Program*                        | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 4,354  | 5,146  | 7,000  | 0      | 0     | 0                     | 16,500 |
| Operation Exchange Program                         | 0       | 0      | 0      | 842    | 0      | 0       | 0       | 0      | 0      | 0      | 0      | 0     | 0                     | 842    |
| Kern Total (*excluded from total)                  | 13,396  | 23,119 | 24,132 | 47,776 | 76,855 | 112,457 | 133,308 | 91,547 | 50,690 | 37,683 | 9,621  | 9,172 | 164,925               |        |
| Oak Flat Water District                            | Table A | 0      | 0      | 0      | 0      | 0       | 0       | 228    | 0      | 188    | 133    | 33    | 1                     | 583    |
| Pool Program Water                                 | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 7      | 0      | 0      | 0      | 0     | 0                     | 7      |
| Carryover Water                                    | 2       | 88     | 227    | 211    | 413    | 491     | 292     | 426    | 50     | 0      | 0      | 0     | 0                     | 2,200  |
| Dry Year Purchase Program                          | 0       | 0      | 0      | 0      | 0      | 0       | 30      | 0      | 0      | 0      | 0      | 0     | 0                     | 30     |
| Oak Flat Total                                     | 2       | 88     | 227    | 211    | 413    | 491     | 557     | 426    | 238    | 133    | 33     | 1     | 2,820                 |        |
| Tulare Lake Basin Water Storage District           | Table A | 0      | 24     | 0      | 40     | 0       | 3,274   | 0      | 7,642  | 347    | 349    | 0     | 398                   | 12,074 |
| Table A Transfer to Westlands and Dudley Ridge*    | 0       | 0      | 0      | 2,000  | 1,100  | 4,299   | 6,780   | 1,550  | 0      | 0      | 0      | 0     | 0                     | 15,729 |
| Pool Program Water                                 | 0       | 0      | 0      | 0      | 0      | 105     | 7,588   | 707    | 0      | 0      | 0      | 0     | 0                     | 8,400  |
| Carryover Water                                    | 60      | 97     | 486    | 817    | 343    | 2,366   | 0       | 0      | 0      | 0      | 0      | 0     | 0                     | 4,169  |
| Dry Year Purchase Program                          | 0       | 0      | 0      | 0      | 0      | 0       | 0       | 1,935  | 0      | 0      | 0      | 0     | 0                     | 1,935  |
| General Conveyance Program                         | 0       | 1,054  | 0      | 0      | 0      | 600     | 4,400   | 0      | 0      | 0      | 0      | 0     | 0                     | 6,054  |
| Tulare Total (*excluded from total)                | 60      | 1,175  | 486    | 857    | 343    | 6,345   | 13,923  | 8,349  | 347    | 349    | 0      | 398   | 0                     | 32,632 |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service                       | Jan | Feb | Mar | Apr   | May   | Jun   | Jul    | Aug   | Sep    | Oct    | Nov   | Dec | Total Deliveries |
|--|-----|-----|-----|-------|-------|-------|--------|-------|--------|--------|-------|-----|------------------|
| Recreation/Fish and Wildlife (SWP)                           |     |     |     |       |       |       |        |       |        |        |       |     | 4                |
| Department of Parks and Recreation, Cattle                   | 1   | 1   | 1   | 1     | 0     | 0     | 0      | 0     | 0      | 0      | 0     | 0   | 4                |
| Department of Fish and Wildlife, O'Neill                     | 22  | 49  | 75  | 41    | 49    | 59    | 59     | 91    | 45     | 90     | 32    | 50  | 662              |
| Department of Fish and Wildlife, Lateral 4                   | 0   | 0   | 0   | 1     | 0     | 31    | 2      | 0     | 1      | 0      | 0     | 0   | 35               |
| Department of Parks and Recreation, O'Neill                  | 0   | 0   | 0   | 0     | 1     | 0     | 1      | 0     | 1      | 0      | 0     | 0   | 3                |
| Department of Parks and Recreation, San Luis                 | 0   | 0   | 0   | 0     | 1     | 0     | 1      | 0     | 0      | 0      | 1     | 0   | 3                |
| Recreation/Fish and Wildlife (SWP) Total                     | 23  | 50  | 76  | 43    | 51    | 90    | 63     | 91    | 47     | 90     | 33    | 50  | 707              |
| Non-SWP Agencies   |     |     |     |       |       |       |        |       |        |        |       |     |                  |
| County of Fresno   | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 49    | 153    | 398    | 0     | 0   | 600              |
| County of Tulare   | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 84    | 268    | 710    | 0     | 0   | 1,062            |
| Hills Valley Irrigation District                             | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 56    | 182    | 392    | 0     | 0   | 630              |
| Kern-Tulare Water District                                   | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 847   | 1,089  | 0      | 2,064 | 0   | 4,000            |
| Lower Tule River Irrigation District                         | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 500   | 1,589  | 4,131  | 0     | 0   | 6,220            |
| Pixley Irrigation District                                   | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 501   | 1,588  | 4,131  | 0     | 0   | 6,220            |
| Non-SWP Agencies Total                                       | 24  | 33  | 43  | 53    | 95    | 90    | 2,136  | 4,957 | 9,840  | 21,159 | 56    | 9   | 19,495           |
| CVP Annual Contractors                                       |     |     |     |       |       |       |        |       |        |        |       |     |                  |
| Musco Family Olive Company                                   | 21  | 29  | 36  | 40    | 63    | 53    | 57     | 50    | 46     | 74     | 45    | 2   | 516              |
| San Joaquin Valley National Cemetery                         | 3   | 4   | 7   | 13    | 32    | 37    | 42     | 38    | 32     | 21     | 11    | 7   | 247              |
| San Luis Water District                                      | 0   | 0   | 0   | 0     | 0     | 0     | 0      | 0     | 3,000  | 0      | 0     | 0   | 6,000            |
| CVP Annual Contractors Total                                 | 24  | 33  | 43  | 53    | 95    | 90    | 99     | 3,088 | 3,078  | 95     | 56    | 9   | 6,763            |
| Western Hills Water District                                 |     |     |     |       |       |       |        |       |        |        |       |     |                  |
| Table A Point of Delivery from SWP                           | 30  | 31  | 60  | 61    | 135   | 157   | 173    | 163   | 135    | 95     | 95    | 88  | 28               |
| Western Hills Total  | 30  | 31  | 60  | 61    | 135   | 157   | 173    | 163   | 135    | 95     | 88    | 28  | 1,156            |
| Westlands Water District                                     |     |     |     |       |       |       |        |       |        |        |       |     |                  |
| Table A Point of Delivery from Kings                         | 0   | 0   | 0   | 0     | 296   | 347   | 0      | 0     | 232    | 242    | 142   | 155 | 1,414            |
| Table A Transfer from Dudley Ridge, Tulare, Empire, and Kern | 0   | 0   | 0   | 2,000 | 1,380 | 2,191 | 10,924 | 500   | 0      | 0      | 500   | 0   | 17,495           |
| Pool Program from Kings                                      | 0   | 0   | 0   | 0     | 6     | 0     | 0      | 0     | 0      | 0      | 0     | 0   | 6                |
| Carryover Water  | 72  | 92  | 142 | 241   | 34    | 0     | 0      | 2     | 2      | 0      | 3     | 3   | 591              |
| Transfer Program Water from Merced Irrigation District       | 0   | 0   | 0   | 0     | 0     | 0     | 4,686  | 5,023 | 18,157 | 0      | 0     | 0   | 27,866           |
| Dry Year Purchase Program                                    | 0   | 0   | 0   | 0     | 0     | 0     | 112    | 0     | 0      | 0      | 0     | 0   | 112              |
| Water delivered to Cross Valley Canal                        | 0   | 0   | 0   | 0     | 0     | 0     | 847    | 1,089 | 0      | 2,064  | 0     | 0   | 4,000            |
| Westlands Total  | 72  | 92  | 142 | 2,241 | 1,716 | 2,538 | 15,610 | 5,525 | 18,391 | 242    | 645   | 158 | 47,372           |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service                               |               | Jan           | Feb           | Mar           | Apr           | May            | Jun            | Jul            | Aug           | Sep           | Oct           | Nov           | Dec            | 2013 Total Deliveries |
|--|---------------|---------------|---------------|---------------|---------------|----------------|----------------|----------------|---------------|---------------|---------------|---------------|----------------|-----------------------|
| Bureau of Reclamation  |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Kern National Wildlife Refuge  | 1,585         | 1,609         | 0             | 0             | 400           | 0              | 0              | 0              | 3,575         | 5,128         | 3,337         | 3,112         | 18,746         |                       |
| Fish and Wildlife  | 40            | 14            | 22            | 5             | 45            | 96             | 57             | 52             | 51            | 3             | 0             | 27            | 412            |                       |
| Recreation   |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Reclamation Total  | 1,766         | 1,712         | 292           | 184           | 761           | 4,252          | 412            | 20,003         | 13,922        | 5,362         | 3,922         | 3,601         | 56,150         |                       |
| SWP  | 14,081        | 24,169        | 25,774        | 51,415        | 82,738        | 127,088        | 129,761        | 67,934         | 35,766        | 40,657        | 10,679        | 9,807         | 619,889        |                       |
| Non-SWP  | 2,728         | 1,750         | 104           | 1,100         | 986           | 766            | 44,205         | 55,691         | 54,878        | 5,871         | 3,369         | 1,176         | 172,624        |                       |
| <b>San Joaquin Valley Area Total</b>                                 | <b>16,809</b> | <b>25,919</b> | <b>25,878</b> | <b>52,515</b> | <b>83,724</b> | <b>127,854</b> | <b>173,966</b> | <b>123,625</b> | <b>90,644</b> | <b>46,528</b> | <b>14,048</b> | <b>10,983</b> | <b>792,493</b> |                       |
| <b>CENTRAL COASTAL AREA</b>  |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| <i>SWP Agencies</i>  |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| San Luis Obispo County Flood Control and Water Conservation District |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Table A  | 0             | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 317           | 267           | 244           | 34            | 316            | 1,178                 |
| Carryover Water  | 331           | 289           | 446           | 348           | 379           | 366            | 344            | 0              | 0             | 0             | 0             | 0             | 0              | 2,503                 |
| San Luis Obispo Total  | 331           | 289           | 446           | 348           | 379           | 366            | 344            | 317            | 267           | 244           | 34            | 316           | 3,681          |                       |
| Santa Barbara County Flood Control and Water Conservation District   |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Table A  | 0             | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 617           | 1,858         | 191           | 586           | 586            | 3,252                 |
| Table A Exchange from Palmdale and Kern                              | 0             | 0             | 0             | 277           | 0             | 0              | 0              | 1,129          | 0             | 37            | 0             | 0             | 0              | 1,443                 |
| Carryover Water  | 929           | 883           | 1,338         | 1,042         | 1,700         | 1,887          | 1,954          | 311            | 1,864         | 325           | 0             | 0             | 0              | 12,233                |
| Carryover Water from Dudley Ridge                                    | 0             | 0             | 0             | 0             | 0             | 0              | 0              | 1,090          | 0             | 0             | 0             | 0             | 0              | 1,050                 |
| Santa Barbara Total  | 929           | 883           | 1,338         | 1,319         | 1,700         | 1,887          | 1,954          | 2,530          | 2,481         | 2,220         | 191           | 586           | 586            | 18,018                |
| SWP  | 1,260         | 1,172         | 1,784         | 1,667         | 2,079         | 2,253          | 2,298          | 2,847          | 2,748         | 2,464         | 225           | 902           | 21,699         |                       |
| Non-SWP  | 0             | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 0             | 0             | 0             | 0             | 0              |                       |
| <b>Central Coastal Area Total</b>                                    | <b>1,260</b>  | <b>1,172</b>  | <b>1,784</b>  | <b>1,667</b>  | <b>2,079</b>  | <b>2,253</b>   | <b>2,298</b>   | <b>2,847</b>   | <b>2,748</b>  | <b>2,464</b>  | <b>225</b>    | <b>902</b>    | <b>21,699</b>  |                       |
| <b>SOUTHERN CALIFORNIA AREA</b>                                      |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| <i>SWP Agencies</i>  |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Antelope Valley-East Kern Water Agency                               |               |               |               |               |               |                |                |                |               |               |               |               |                |                       |
| Table A  | 1,148         | 1,380         | 428           | 536           | 13            | 6,287          | 6,902          | 6,484          | 5,758         | 4,132         | 2,605         | 1,955         | 1,955          | 37,628                |
| Table A Point of Delivery from Mojave                                | 0             | 0             | 0             | 0             | 0             | 0              | 0              | 0              | 0             | 0             | 0             | 0             | 33             | 33                    |
| Carryover Water  | 1,304         | 806           | 2,496         | 2,979         | 5,801         | 0              | 0              | 0              | 0             | 0             | 0             | 0             | 0              | 13,386                |
| Carryover Water from Palmdale  | 0             | 0             | 0             | 1             | 1             | 2              | 1              | 1              | 1             | 0             | 1             | 0             | 0              | 8                     |
| AVEK Total   | 2,452         | 2,186         | 2,924         | 3,516         | 5,815         | 6,289          | 6,903          | 6,485          | 5,759         | 4,132         | 2,606         | 1,988         | 1,988          | 51,055                |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service                 | Jan    | Feb    | Mar    | Apr    | May    | Jun    | Jul    | Aug    | Sep    | Oct    | Nov    | Dec    | 2013 Total Deliveries |
|--|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-----------------------|
| Castaic Lake Water Agency                              |        |        |        |        |        |        |        |        |        |        |        |        |                       |
| Table A  | 530    | 545    | 197    | 2,188  | 1,849  | 2,157  | 2,276  | 2,464  | 1,946  | 2,406  | 2,188  | 1,397  | 20,143                |
| Table A Transfer to San Luis Water District*           | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 3,000  | 0      | 0      | 0      | 0      | 6,000                 |
| Table A Exchange to Kern*                              | 0      | 0      | 0      | 0      | 0      | 0      | 1,677  | 5,500  | 0      | 0      | 0      | 0      | 7,177                 |
| Carryover Water  | 900    | 1,309  | 2,441  | 1,174  | 2,500  | 2,732  | 2,946  | 3,072  | 3,260  | 1,800  | 1,177  | 1,300  | 24,611                |
| Carryover Water to Kern*                               | 0      | 0      | 0      | 0      | 0      | 0      | 3,823  | 0      | 0      | 0      | 0      | 0      | 3,823                 |
| Castaic Lake Total (*excluded from total)              | 1,430  | 1,854  | 2,638  | 3,362  | 4,349  | 4,889  | 5,222  | 5,536  | 5,206  | 4,206  | 3,365  | 2,697  | 44,754                |
| Coachella Valley Water District                        |        |        |        |        |        |        |        |        |        |        |        |        |                       |
| Table A  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 9,874  | 15,219 | 15,382 | 7,948                 |
| Pool Program Water                                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 164    | 0      | 0      | 0      | 0      | 164                   |
| Dry Year Purchase Program                              | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1,452  | 0      | 0      | 0      | 0      | 1,452                 |
| General Conveyance Program                             | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 4,354  | 5,146  | 7,000  | 0      | 0      | 16,500                |
| Coachella Total  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 5,970  | 5,146  | 16,874 | 15,219 | 15,382 | 7,948                 |
| Crestline-Lake Arrowhead Water Agency                  |        |        |        |        |        |        |        |        |        |        |        |        |                       |
| Table A  | 102    | 43     | 76     | 85     | 128    | 139    | 163    | 189    | 148    | 110    | 82     | 103    | 1,368                 |
| Carryover Water to San Gorgonio                        | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 994    | 1,006  | 0      | 2,000                 |
| Crestline Total  | 102    | 43     | 76     | 85     | 128    | 139    | 163    | 189    | 148    | 110    | 82     | 103    | 1,368                 |
| Desert Water Agency                                    |        |        |        |        |        |        |        |        |        |        |        |        |                       |
| Table A  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1,968  | 6,133  | 5,279  | 19,513                |
| Pool Program Water                                     | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 66     | 0      | 0      | 0      | 0      | 66                    |
| Dry Year Purchase Program                              | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1,212  | 0      | 0      | 0      | 0      | 1,212                 |
| Desert Total   | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 1,278  | 0      | 1,968  | 6,133  | 5,279  | 20,791                |
| The Metropolitan Water District of Southern California |        |        |        |        |        |        |        |        |        |        |        |        |                       |
| Table A  | 0      | 39,629 | 67,419 | 84,661 | 80,829 | 78,359 | 55,380 | 50,719 | 37,247 | 51,758 | 29,422 | 37,848 | 613,271               |
| Table A Point of Delivery to Kern*                     | 0      | 0      | 0      | 198    | 920    | 14     | 1,294  | 2,980  | 1,186  | 0      | 0      | 0      | 6,592                 |
| Table A Exchange from Mojave                           | 0      | 0      | 0      | 0      | 0      | 0      | 2,957  | 2,957  | 2,957  | 2,957  | 2,957  | 2,957  | 20,663                |
| Pool Program Water                                     | 0      | 0      | 0      | 0      | 0      | 0      | 12,267 | 10,000 | 10,000 | 0      | 0      | 0      | 32,267                |
| Carryover Water  | 75,791 | 25,009 | 5,488  | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 0      | 106,288               |
| Water Bank Recovery                                    | 10,092 | 9,512  | 5,299  | 940    | 428    | 885    | 2,312  | 6,173  | 6,279  | 24,011 | 28,604 | 8,725  | 103,260               |
| Dry Year Purchase Program                              | 0      | 0      | 0      | 0      | 0      | 0      | 3,666  | 3,666  | 2,877  | 0      | 0      | 0      | 10,209                |
| Metropolitan Total (*excluded from total)              | 85,883 | 74,150 | 78,206 | 85,601 | 81,257 | 82,201 | 76,582 | 73,515 | 59,360 | 78,726 | 60,983 | 49,494 | 885,958               |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service         | Jan   | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   | Total Deliveries |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|------------------|
| Mojave Water Agency                            | 0     | 0     | 0     | 0     | 549   | 731   | 606   | 473   | 534   | 1,214 | 460   | 31    | 4,598            |
| Table A  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 33    | 33               |
| Table A Point of Delivery to AVEK*             | 0     | 0     | 0     | 0     | 0     | 2,957 | 2,957 | 2,957 | 2,957 | 2,957 | 2,957 | 2,921 | 20,663           |
| Table A Exchanged to Metropolitan              | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 2,852            |
| Carryover Water                                | 696   | 718   | 659   | 779   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 7,450            |
| Mojave Total (*excluded from total)            | 696   | 718   | 659   | 779   | 549   | 731   | 606   | 473   | 534   | 1,214 | 460   | 31    |                  |
| Palmdale Water District                        | 0     | 680   | 0     | 0     | 0     | 0     | 749   | 167   | 486   | 331   | 0     | 713   | 1,071            |
| Table A  | 0     | 0     | 1,100 | 0     | 0     | 0     | 0     | 1,021 | 1,135 | 0     | 0     | 0     | 3,256            |
| Table A from Butte                             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 325   | 0     | 37    | 0     | 0                |
| Table A Exchange to Santa Barbara*             | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 362              |
| Carryover Water                                | 544   | 0     | 0     | 1,297 | 1,273 | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 3,114            |
| Carryover Water to another SWP contractor*     | 0     | 0     | 0     | 1     | 1     | 2     | 1     | 1     | 1     | 1     | 1     | 0     | 8                |
| Palmdale Total (*excluded from total)          | 544   | 680   | 1,100 | 1,297 | 1,273 | 749   | 1,188 | 1,621 | 331   | 0     | 713   | 1,071 | 10,567           |
| San Bernardino Valley Municipal Water District | 1,509 | 1,358 | 0     | 2,270 | 4,706 | 3,205 | 4,319 | 2,821 | 1,246 | 2,208 | 1,765 | 752   | 26,159           |
| Table A  | 2,000 | 300   | 1,574 | 552   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 4,426            |
| Carryover Water                                | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 1,500 | 0     | 0     | 0     | 1,500            |
| Water Bank Recovery                            | 3,509 | 1,658 | 1,574 | 2,822 | 4,706 | 3,205 | 4,319 | 2,821 | 2,746 | 2,208 | 1,765 | 752   | 32,085           |
| San Bernardino Total                           |       |       |       |       |       |       |       |       |       |       |       |       |                  |
| San Gabriel Valley Municipal Water District    | 1,443 | 0     | 0     | 0     | 2,434 | 2,385 | 2,318 | 0     | 0     | 0     | 0     | 0     | 8,580            |
| Table A  | 0     | 0     | 0     | 1,000 | 500   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0                |
| Table A to Dudley Ridge                        | 672   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 672              |
| Table A Exchange from Dudley Ridge             | 2,115 | 0     | 0     | 0     | 2,434 | 2,385 | 2,318 | 0     | 0     | 0     | 0     | 0     | 9,252            |
| San Gabriel Total                              |       |       |       |       |       |       |       |       |       |       |       |       |                  |
| San Gorgonio Pass Water Agency                 | 0     | 0     | 0     | 321   | 501   | 452   | 471   | 117   | 458   | 0     | 0     | 19    | 2,339            |
| Table A  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 500   | 0     | 0     | 0     | 500   | 1,000            |
| Pool Program Water                             | 692   | 33    | 0     | 500   | 500   | 500   | 500   | 0     | 500   | 0     | 4     | 500   | 3,729            |
| Carryover Water                                | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 994   | 1,006 | 0     | 0     | 2,000            |
| Carryover Water from Crestline                 | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 377   | 0     | 0     | 0     | 0     | 377              |
| Dry Year Purchase Program                      | 692   | 33    | 0     | 821   | 1,001 | 952   | 971   | 994   | 958   | 994   | 1,010 | 1,019 | 9,445            |
| Ventura County Watershed Protection District   | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 36    | 204   | 2,446 | 204   | 2,890            |
| Table A  | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 36    | 204   | 2,446 | 204   | 2,890            |
| Ventura Total                                  |       |       |       |       |       |       |       |       | 36    | 204   | 2,446 | 204   |                  |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service   | Jan             | Feb            | Mar            | Apr            | May            | Jun            | Jul            | Aug            | Sep            | Oct            | Nov            | Dec           | 2013 Total       |        |
|--|-----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|------------------|--------|
|  |                 |                |                |                |                |                |                |                |                |                |                |               | Deliveries       |        |
| Recreation/Fish and Wildlife (SWP)       |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| Castaic Lagoon                           | 3               | 0              | 12             | 15             | 16             | 24             | 31             | 12             | 34             | 15             | 10             | 196           |                  |        |
| Lake Perris- Parks and Recreation        | 6               | 5              | 11             | 19             | 28             | 36             | 43             | 20             | 24             | 23             | 7              | 8             | 230              |        |
| Lake Perris- Fish and Wildlife           | 13              | 13             | 30             | 9              | 20             | 15             | 2              | 10             | 20             | 12             | 12             | 186           |                  |        |
| Pyramid Lake                             | 2               | 1              | 4              | 11             | 9              | 12             | 18             | 8              | 16             | 6              | 9              | 2             | 98               |        |
| Silverwood Lake                          | 2               | 3              | 3              | 6              | 10             | 14             | 16             | 11             | 9              | 7              | 2              | 2             | 85               |        |
| Recreation/Fish and Wildlife (SWP) Total | 26              | 22             | 60             | 81             | 72             | 106            | 116            | 72             | 71             | 90             | 45             | 34            | 795              |        |
| <b>SWP</b>                               | <b>97,449</b>   | <b>81,344</b>  | <b>87,237</b>  | <b>98,364</b>  | <b>101,584</b> | <b>101,646</b> | <b>94,952</b>  | <b>87,663</b>  | <b>84,114</b>  | <b>113,236</b> | <b>94,990</b>  | <b>70,620</b> | <b>1,113,199</b> |        |
| <b>Non-SWP</b>                           | <b>0</b>        | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>10,684</b>  | <b>9,189</b>   | <b>9,877</b>   | <b>0</b>       | <b>0</b>       | <b>0</b>      | <b>29,750</b>    |        |
| <b>Southern California Area Total</b>    | <b>97,449</b>   | <b>81,344</b>  | <b>87,237</b>  | <b>98,364</b>  | <b>101,584</b> | <b>101,646</b> | <b>105,636</b> | <b>96,852</b>  | <b>93,991</b>  | <b>113,236</b> | <b>94,990</b>  | <b>70,620</b> | <b>1,142,949</b> |        |
| <b>SWP WATER</b>                         |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| SWP Long-term Water Supply Contracts     |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| Table A                                  | 5,088           | 46,763         | 69,098         | 111,486        | 131,637        | 145,661        | 153,679        | 89,369         | 76,159         | 122,565        | 69,627         | 63,560        | 1,084,692        |        |
| Transfer Table A                         | 30              | 31             | 1,160          | 2,263          | 2,744          | 5,269          | 27,446         | 9,086          | 4,801          | 339            | 730            | 216           | 54,115           |        |
| Exchange Table A                         | 672             | 0              | 0              | 1,277          | 791            | 3,248          | 4,926          | 9,586          | 2,957          | 2,994          | 2,957          | 2,921         | 32,329           |        |
| Pool Water                               | 0               | 0              | 0              | 0              | 0              | 6              | 110            | 21,836         | 36,543         | 29,986         | 8,546          | 1,205         | 500              | 98,732 |
| Carryover Water                          | 89,069          | 38,012         | 24,158         | 17,418         | 42,296         | 75,512         | 17,674         | 10,407         | 11,766         | 11,014         | 7,441          | 5,788         | 350,555          |        |
| Total Table A                            | 94,859          | 84,806         | 94,416         | 132,444        | 177,474        | 229,800        | 225,561        | 154,991        | 125,669        | 145,458        | 81,960         | 72,985        | 1,620,423        |        |
| Other Water Supply Contracts             |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| Water Bank Recovery                      | 23,488          | 29,994         | 29,431         | 33,732         | 28,505         | 27,995         | 24,382         | 25,881         | 15,087         | 30,529         | 39,129         | 17,897        | 326,050          |        |
| Solano Settlement                        | 0               | 190            | 169            | 918            | 475            | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0                | 1,752  |
| <b>SWP Total</b>                         | <b>1118,347</b> | <b>114,990</b> | <b>124,016</b> | <b>167,094</b> | <b>206,454</b> | <b>257,795</b> | <b>249,943</b> | <b>180,872</b> | <b>140,756</b> | <b>175,987</b> | <b>121,089</b> | <b>90,882</b> | <b>1,948,225</b> |        |
| <b>NON-SWP WATER</b>                     |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| Non-SWP Water to SWP Contractors         |                 |                |                |                |                |                |                |                |                |                |                |               |                  |        |
| Recreation/Fish and Wildlife             | 0               | 0              | 0              | 0              | 0              | 1              | 0              | 0              | 1              | 0              | 0              | 0             | 0                | 2      |
| Yuba Accord Dry Year Purchase Program    | 0               | 0              | 0              | 0              | 0              | 0              | 0              | 15,968         | 12,897         | 11,968         | 215            | 0             | 0                | 41,048 |
| Local Water                              | 147             | 268            | 716            | 128            | 183            | 604            | 750            | 273            | 2,569          | 1,320          | 386            | 704           | 8,048            |        |
| Other temporary transfer programs        | 0               | 0              | 0              | 0              | 0              | 0              | 0              | 22,881         | 33,702         | 10,827         | 0              | 0             | 0                | 67,410 |
| General Conveyance                       | 0               | 1,054          | 0              | 0              | 0              | 0              | 600            | 9,816          | 7,408          | 11,421         | 0              | 0             | 0                | 30,299 |
| Water Transfer                           | 0               | 0              | 0              | 0              | 0              | 0              | 0              | 1,085          | 0              | 0              | 0              | 0             | 1,085            |        |
| Water Operations Exchange                | 0               | 0              | 0              | 0              | 842            | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0                | 842    |
| Vallejo Permit                           | 0               | 12             | 0              | 111            | 726            | 1,047          | 1,745          | 1,911          | 1,617          | 1,583          | 1,372          | 1,333         | 11,457           |        |

**Table 9-9 Total Amounts of Water Delivered in 2013, by Month (acre-feet)**

| Contracting Agency and Type of Service      |        | Jan            | Feb            | Mar            | Apr            | May            | Jun            | Jul            | Aug            | Sep            | Oct            | Nov            | Dec            | 2013 Total Deliveries |
|---|--------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------|
| <i>Subtotal</i>                             |        | 147            | 1,334          | 716            | 1,081          | 910            | 2,251          | 52,245         | 56,192         | 38,402         | 3,118          | 1,758          | 2,037          | 160,191               |
| <i>Total Deliveries to SWP Contractors</i>  |        | <b>118,494</b> | <b>116,324</b> | <b>124,732</b> | <b>168,175</b> | <b>207,364</b> | <b>260,046</b> | <b>302,188</b> | <b>237,064</b> | <b>179,158</b> | <b>179,105</b> | <b>122,847</b> | <b>92,919</b>  | <b>2,108,416</b>      |
| <b>Non-SWP Water Supply Contracts</b>       |        |                |                |                |                |                |                |                |                |                |                |                |                |                       |
| Local                                       | 38,029 | 567            | 4,624          | 62,613         | 194,335        | 180,518        | 196,742        | 147,051        | 48,192         | 93,717         | 131,531        | 94,917         | 1,192,836      |                       |
| Recreation/Fish and Wildlife                | 51     | 75             | 148            | 135            | 133            | 210            | 204            | 185            | 140            | 190            | 82             | 86             | 1,639          |                       |
| CVP/Reclamation                             |        |                |                |                |                |                |                |                |                |                |                |                |                |                       |
| Transfer from Merced Irrigation District    | 0      | 0              | 0              | 0              | 0              | 0              | 0              | 4,686          | 5,023          | 18,157         | 0              | 0              | 0              | 27,866                |
| Cross Valley Canal Contractors              | 0      | 0              | 0              | 0              | 0              | 0              | 0              | 2,037          | 4,869          | 9,762          | 2,064          | 0              | 0              | 18,732                |
| Kern National Wildlife Refuge               | 2,685  | 622            | 0              | 171            | 850            | 0              | 426            | 2,953          | 4,417          | 3,638          | 3,288          | 1,126          | 20,176         |                       |
| Recreation/Fish and Wildlife                | 19     | 41             | 61             | 34             | 41             | 76             | 50             | 74             | 36             | 74             | 25             | 41             | 572            |                       |
| Annual Contract                             | 24     | 33             | 43             | 53             | 95             | 90             | 99             | 88             | 78             | 95             | 56             | 9              | 763            |                       |
| <b>Non-SWP Water Supply Contracts Total</b> |        | <b>40,808</b>  | <b>1,338</b>   | <b>4,876</b>   | <b>63,006</b>  | <b>195,454</b> | <b>180,894</b> | <b>204,244</b> | <b>160,243</b> | <b>80,782</b>  | <b>99,778</b>  | <b>134,982</b> | <b>96,179</b>  | <b>1,262,584</b>      |
| <b>Grand Total</b>                          |        | <b>159,302</b> | <b>117,662</b> | <b>129,608</b> | <b>231,181</b> | <b>402,818</b> | <b>440,940</b> | <b>506,432</b> | <b>397,307</b> | <b>259,940</b> | <b>278,883</b> | <b>257,829</b> | <b>189,098</b> | <b>3,371,000</b>      |

**Table 9-10 Total Amounts of Annual Table A Water and Water Conveyed, by Type, 1962-2013 (acre-feet)**

|                                 | Annual Table A Amounts According to Long-term Water Supply Contracts |                       |                                |                             |                                 |              | Water Conveyed       |  |                                  |   |   |                  |                            |   |               |           |
|---------------------------------|--|-----------------------|--------------------------------|-----------------------------|---------------------------------|--------------|----------------------|--|----------------------------------|---|---|------------------|----------------------------|---|---------------|-----------|
|                                 | Deliveries   |                       |                                |                             |                                 |              | Water Conveyed       |  |                                  |   |   |                  |                            |   |               |           |
| Upper Feather River Area<br>[1] | North Bay Area<br>[2]  | South Bay Area<br>[3] | San Joaquin Valley Area<br>[4] | Central Coastal Area<br>[5] | Southern California Area<br>[6] | Total<br>[7] | Table A Water<br>[8] | Article 21, Surplus, and Unscheduled Water <sup>a</sup><br>[9] | Other Water <sup>b</sup><br>[10] | Feather River Diversions <sup>c</sup><br>[11] | Recreation/Fish and Wildlife/<br>Water [12] | Subtotal<br>[13] | Initial Fill Water<br>[14] | Losses and Storage Changes <sup>d</sup><br>[15] | Total<br>[16] |           |
| 1962                            | -  | -                     | -                              | -                           | -                               | -            | -                    | -  | 9,704                            | 7,499   | -   | 17,203           | 9                          | 272   | 17,484        |           |
| 1963                            | -  | -                     | -                              | -                           | -                               | -            | -                    | -  | 13,212                           | 16,049  | -   | 29,261           | 71                         | 185   | 29,517        |           |
| 1964                            | -  | -                     | -                              | -                           | -                               | -            | -                    | -  | 21,743                           | 17,891  | -   | 39,634           | 171                        | 152   | 39,957        |           |
| 1965                            | -  | -                     | -                              | -                           | -                               | -            | -                    | -  | 35,985                           | 27,425  | -   | 63,410           | 93                         | 729   | 64,232        |           |
| 1966                            | -  | -                     | -                              | -                           | -                               | -            | -                    | -  | 59,599                           | 33,361  | -   | 92,960           | -                          | 1,746   | 94,706        |           |
| 1967                            | -  | -                     | 11,538                         | -                           | -                               | 11,538       | -                    | -  | 45,225                           | 24,639  | -   | 81,218           | 8,328                      | 4,212   | 93,758        |           |
| 1968                            | 550  | -                     | 109,900                        | 77,350                      | -                               | 3,700        | 191,500              | 171,709  | 121,534                          | 1,214   | 903,367                                     | -                | 1,197,824                  | 498,926   | 117,906       | 1,814,656 |
| 1969                            | 620  | -                     | 98,700                         | 163,075                     | -                               | 5,000        | 267,395              | 193,020  | 72,397                           | 8,692   | 832,454                                     | -                | 1,106,563                  | 510,614   | 72,196        | 1,689,373 |
| 1970                            | 700  | -                     | 114,200                        | 202,000                     | -                               | 5,700        | 322,600              | 233,993  | 131,848                          | 25,401  | 804,320                                     | -                | 1,195,562                  | 23,947  | 2,435         | 1,221,944 |
| 1971                            | 890  | -                     | 116,200                        | 251,800                     | -                               | 6,700        | 375,590              | 357,340  | 294,581                          | 35,438  | 825,886                                     | 8                | 1,513,253                  | 7,853   | 5,812         | 1,526,918 |
| 1972                            | 970  | -                     | 118,300                        | 413,066                     | -                               | 209,423      | 741,759              | 611,801  | 422,322                          | 53,848  | 875,529                                     | 6,489            | 1,969,989                  | 100,274   | 53,062        | 2,123,325 |
| 1973                            | 1,100  | -                     | 120,400                        | 383,652                     | -                               | 48,100       | 986,252              | 692,888  | 294,916                          | 29,540  | 851,285                                     | 1,155            | 1,869,784                  | 204,638   | 53,798        | 2,128,220 |
| 1974                            | 1,230  | -                     | 122,400                        | 460,650                     | -                               | 597,920      | 1,182,200            | 874,075  | 412,453                          | 31,493  | 963,956                                     | 2,118            | 2,284,095                  | 237,554   | 10,657        | 2,532,306 |
| 1975                            | 1,610  | -                     | 124,500                        | 545,809                     | -                               | 714,950      | 1,386,889            | 1,223,990  | 620,685                          | 46,995  | 924,696                                     | 3,377            | 2,819,743                  | 103,332   | (94,606)      | 2,828,489 |
| 1976                            | 1,990  | -                     | 126,500                        | 543,417                     | -                               | 836,480      | 1,568,387            | 1,373,002  | 551,685                          | 103,546                                       | 1,018,653                                   | 1,745            | 3,048,631                  | 61,122  | (681,025)     | 2,428,728 |
| 1977                            | 2,420  | -                     | 128,600                        | 581,400                     | -                               | 954,901      | 1,667,321            | 573,896  | -                                | 410,991                                       | 624,497                                     | 1,111            | 1,610,495                  | -   | (131,151)     | 1,479,344 |
| 1978                            | 1,850  | -                     | 130,700                        | 635,900                     | -                               | 1,049,584    | 1,818,034            | 1,312,365  | 16,215                           | 177,245                                       | 836,864                                     | 1,691            | 2,344,380                  | 64,443  | 717,370       | 3,126,193 |
| 1979                            | 2,130  | -                     | 132,700                        | 702,685                     | -                               | 1,190,573    | 2,028,088            | 1,494,292  | 646,830                          | 431,693                                       | 933,067                                     | 1,766            | 3,417,648                  | 12,302  | (83,430)      | 3,346,520 |
| 1980                            | 1,810  | 500                   | 134,800                        | 758,100                     | 1,946                           | 1,317,514    | 2,214,770            | 1,511,491  | 402,217                          | 40,269  | 925,750                                     | 2,131            | 2,881,858                  | -   | (26,606)      | 2,855,252 |
| 1981                            | 1,940  | 650                   | 137,000                        | 818,000                     | 2,813                           | 1,432,065    | 2,392,468            | 1,889,125  | 908,428                          | 283,310                                       | 993,785                                     | 4,688            | 4,079,336                  | -   | (802,263)     | 3,277,073 |
| 1982                            | 1,970  | 800                   | 139,200                        | 876,500                     | 5,626                           | 1,550,449    | 2,574,545            | 1,738,056  | 215,134                          | 144,267                                       | 819,586                                     | 4,646            | 2,921,639                  | -   | 480,752       | 3,402,441 |
| 1983                            | 2,000  | 950                   | 141,400                        | 867,118                     | 8,439                           | 1,681,257    | 2,701,164            | 1,184,119  | 13,019                           | 172,030                                       | 633,778                                     | 7,849            | 2,010,795                  | -   | (90,997)      | 1,919,798 |
| 1984                            | 3,630  | 1,100                 | 143,600                        | 979,211                     | 12,698                          | 1,744,098    | 2,884,337            | 1,587,593  | 262,917                          | 366,273                                       | 891,128                                     | 7,040            | 3,114,951                  | -   | (140,182)     | 2,974,769 |
| 1985                            | 3,760  | 1,250                 | 145,800                        | 1,019,949                   | 21,138                          | 1,864,849    | 3,055,846            | 1,912,765  | 301,844                          | 474,417                                       | 924,049                                     | 4,033            | 3,617,108                  | -   | 97,885        | 3,709,993 |
| 1986                            | 4,190  | 1,400                 | 148,100                        | 1,091,946                   | 28,210                          | 1,983,890    | 3,257,736            | 2,007,906  | 24,350                           | 177,176                                       | 843,040                                     | 3,865            | 3,056,337                  | -   | 284,380       | 3,340,717 |
| 1987                            | 4,620  | 1,550                 | 150,300                        | 1,188,500                   | 35,204                          | 2,103,941    | 3,484,115            | 2,113,915  | 114,907                          | 375,810                                       | 882,301                                     | 7,672            | 3,494,605                  | -   | (390,413)     | 3,104,192 |
| 1988                            | 5,060  | 15,471                | 152,500                        | 1,246,100                   | 43,772                          | 2,225,482    | 3,688,335            | 2,376,373  | -                                | 520,375                                       | 884,877                                     | 4,889            | 3,786,514                  | -   | (92,850)      | 3,693,664 |
| 1989                            | 5,500  | 24,615                | 156,700                        | 1,290,400                   | 56,342                          | 2,424,633    | 3,958,190            | 2,853,747  | -                                | 474,559                                       | 830,500                                     | 8,135            | 4,166,941                  | -   | 447,917       | 4,614,858 |
| 1990                            | 6,040  | 28,190                | 160,900                        | 1,313,450                   | 70,486                          | 2,500,600    | 4,079,666            | 2,582,151  | 90                               | 424,697                                       | 875,099                                     | 9,262            | 3,891,299                  | -   | (528,869)     | 3,362,430 |
| 1991                            | 11,880   | 29,590                | 166,400                        | 1,338,011                   | 70,486                          | 2,510,200    | 4,126,567            | 549,113  | 3,521                            | 543,582                                       | 565,395                                     | 4,879            | 1,666,490                  | -   | 167,435       | 1,833,925 |

**Table 9-10 Total Amounts of Annual Table A Water and Water Conveyed, by Type, 1962-2013 (acre-feet)**

|                              | Annual Table A Amounts According to Long-term Water Supply Contracts |                    |                             |                          |                              |                   | Water Conveyed     |  |                               |  |   |                    |                         |  |                    |           |
|------------------------------|--|--------------------|-----------------------------|--------------------------|------------------------------|-------------------|--------------------|--|-------------------------------|--|---|--------------------|-------------------------|--|--------------------|-----------|
|                              | Deliveries   |                    |                             |                          |                              |                   | Water Conveyed     |  |                               |  |   |                    |                         |  |                    |           |
| Upper Feather River Area [1] | North Bay Area [2]   | South Bay Area [3] | San Joaquin Valley Area [4] | Central Coastal Area [5] | Southern California Area [6] | Total [7]         | Table A Water [8]  | Article 21, Surplus and Unscheduled Water <sup>a</sup> [9] | Other Water <sup>b</sup> [10] | Feather River Diversions <sup>c</sup> [11] | Recreation/Fish and Wildlife Water [12] | Subtotal [13]      | Initial Fill Water [14] | Losses and Storage Changes <sup>d</sup> [15] | Total [16]         |           |
| 1992                         | 11,920   | 32,010             | 171,900                     | 1,342,300                | 70,486                       | 2,510,200         | 4,138,816          | 1,410,799  | 1,156                         | 166,992                                    | 613,978                                 | 2,605              | 2,195,530               | -  | (63,541)           | 2,131,989 |
| 1993                         | 11,960   | 34,620             | 177,400                     | 1,342,300                | 70,486                       | 2,510,200         | 4,146,966          | 2,313,236  | -                             | 256,853                                    | 822,589                                 | 2,609              | 3,395,287               | -  | 726,123            | 4,121,410 |
| 1994                         | 12,000   | 37,215             | 182,000                     | 1,342,300                | 70,486                       | 2,510,200         | 4,154,201          | 1,749,351  | 112,625                       | 236,739                                    | 874,018                                 | 8,200              | 2,980,933               | -  | (295,405)          | 2,685,528 |
| 1995                         | 12,050   | 44,030             | 184,000                     | 1,342,300                | 70,486                       | 2,510,200         | 4,163,066          | 1,967,093  | 64,330                        | 85,560                                     | 860,077                                 | 2,575              | 2,979,635               | -  | 69,536             | 3,049,171 |
| 1996                         | 12,100   | 48,225             | 186,000                     | 1,301,630                | 70,486                       | 2,492,900         | 4,111,341          | 2,514,824  | 28,647                        | 252,346                                    | 1,005,148                               | 3,907              | 3,804,872               | 86   | 491,550            | 4,296,508 |
| 1997                         | 12,150   | 49,315             | 188,000                     | 1,297,300                | 45,201                       | 2,492,900         | 4,084,866          | 2,260,383  | 21,432                        | 322,000                                    | 993,211                                 | 4,146              | 3,601,172               | 527  | (11,806)           | 3,589,893 |
| 1998                         | 12,200   | 50,420             | 188,000                     | 1,272,300                | 45,201                       | 2,517,900         | 4,086,021          | 1,726,519  | 20,288                        | 127,405                                    | 872,738                                 | 2,108              | 2,749,058               | -  | (132,491)          | 2,616,567 |
| 1999                         | 13,940   | 55,020             | 188,000                     | 1,272,300                | 70,486                       | 2,519,900         | 4,119,546          | 2,738,903  | 158,070                       | 85,312                                     | 1,108,672                               | 4,324              | 4,095,281               | -  | (189,525)          | 3,905,756 |
| 2000                         | 14,000   | 55,945             | 210,000                     | 1,205,300                | 70,486                       | 2,565,900         | 4,121,631          | 3,168,936  | 308,785                       | 342,688                                    | 1,085,886                               | 4,096              | 4,910,391               | -  | (20,103)           | 4,890,288 |
| 2001                         | 14,670   | 66,561             | 220,000                     | 1,185,519                | 70,486                       | 2,566,900         | 4,124,136          | 1,579,291  | 48,145                        | 524,768                                    | 1,077,997                               | 2,942              | 3,233,143               | -  | 159,983            | 3,393,126 |
| 2002                         | 14,730   | 67,396             | 230,000                     | 1,182,519                | 70,486                       | 2,569,900         | 4,125,031          | 2,565,630  | 43,115                        | 241,268                                    | 1,131,880                               | 3,712              | 3,995,605               | -  | 80,709             | 4,065,514 |
| 2003                         | 14,790   | 68,231             | 220,400                     | 1,182,119                | 70,486                       | 2,570,900         | 4,126,926          | 2,943,242  | 59,828                        | 249,884                                    | 1,006,995                               | 2,862              | 4,262,811               | -  | 459,377            | 4,722,88  |
| 2004                         | 13,100   | 69,056             | 222,619                     | 1,170,000                | 70,486                       | 2,581,800         | 4,127,061          | 2,594,726  | 218,496                       | 453,603                                    | 1,171,835                               | 2,887              | 4,441,547               | -  | 108,840            | 4,550,387 |
| 2005                         | 10,800   | 69,481             | 222,619                     | 1,170,000                | 70,486                       | 2,582,300         | 4,125,686          | 2,827,256  | 731,083                       | 92,858                                     | 1,074,706                               | 1,515              | 4,727,478               | -  | 529,347            | 5,256,765 |
| 2006                         | 11,124   | 69,856             | 222,619                     | 1,170,000                | 70,486                       | 2,582,800         | 4,126,885          | 2,973,349  | 621,339                       | 143,774                                    | 1,094,944                               | 3,628              | 4,837,034               | -  | (119,981)          | 4,717,053 |
| 2007                         | 11,520   | 70,231             | 222,619                     | 1,170,000                | 70,486                       | 2,584,450         | 4,129,306          | 2,080,897  | 309,973                       | 713,993                                    | 1,193,237                               | 2,581              | 4,300,681               | -  | (524,851)          | 3,775,830 |
| 2008                         | 39,120   | 70,606             | 222,619                     | 1,170,000                | 70,486                       | 2,593,100         | 4,165,931          | 1,238,159  | 2,729                         | 842,893                                    | 1,087,669                               | 2,778              | 3,174,228               | -  | (758,813)          | 2,415,415 |
| 2009                         | 39,190   | 70,981             | 222,619                     | 1,170,000                | 70,486                       | 2,593,100         | 4,166,376          | 1,232,753  | 6,032                         | 798,348                                    | 1,125,147                               | 2,047              | 3,164,327               | 97   | (31,319)           | 3,133,105 |
| 2010                         | 39,260   | 76,531             | 222,619                     | 1,140,000                | 70,486                       | 2,623,100         | 4,171,996          | 1,930,929  | 7,505                         | 778,035                                    | 978,172                                 | 1,167              | 3,695,808               | -  | 461,751            | 4,157,559 |
| 2011                         | 39,340   | 76,581             | 222,619                     | 1,140,000                | 70,486                       | 2,623,100         | 4,172,126          | 2,847,572  | 420,691                       | 413,160                                    | 1,028,542                               | 1,593              | 4,711,58                | -  | 358,354            | 5,069,912 |
| 2012                         | 39,420   | 76,631             | 222,619                     | 1,140,000                | 70,486                       | 2,623,100         | 4,172,256          | 2,558,69   | -                             | 401,523                                    | 1,047,832                               | 1,609              | 4,009,663               | -  | (537,209)          | 3,472,454 |
| 2013                         | 39,510   | 76,681             | 222,619                     | 1,140,000                | 70,486                       | 2,623,100         | 4,172,396          | 1,620,423  | -                             | 582,301                                    | 1,166,635                               | 1,641              | 3,371,000               | -  | (256,889)          | 3,114,111 |
| <b>Total</b>                 | <b>507,354</b>   | <b>1,441,689</b>   | <b>7,793,228</b>            | <b>44,595,376</b>        | <b>1,857,322</b>             | <b>80,183,049</b> | <b>141,937,938</b> | <b>80,161,162</b>  | <b>13,650,632</b>             | <b>43,012,634</b>                          | <b>154,081</b>                          | <b>146,016,558</b> | <b>1,834,407</b>        | <b>(44,854)</b>                              | <b>147,806,111</b> |           |

<sup>a</sup> Values include amounts of deliveries to short-term contractors (Mustang Water District, 1970-1972; Tracy Golf and Country Club, 1974, 1975, 1978, 1979, 1980, and 1985; and Granite Construction Company, 1980).<sup>b</sup> Includes amounts of SWP and non-SWP water conveyed for SWP and non-SWP water contractors.<sup>c</sup> Includes amounts of water diverted under various water rights agreements.<sup>d</sup> Amounts reflect net effect of (1) operational losses from SWP transportation facilities; (2) changes in reservoir storage south of the Delta; (3) storable local inflows to SWP reservoirs; (4) side inflow to San Luis Canal; and (5) inflow into the California Aqueduct from the Kern River Intertie.



## Chapter 10

## Power Resources

*Alamo Powerplant.*

## Significant Events in 2013

**T**he Department of Water Resources (DWR) contract with NV Energy (NVE) for up to 235 megawatts (MW) of power from the Reid Gardner Powerplant in Nevada terminated in July 2013.

In 2013, the California Air Resources Board implemented the Cap and Trade program, which also covers greenhouse gas (GHG) emissions from energy imported into California. Consequently, DWR reported emissions associated with energy it imported from the Reid Gardner Powerplant and procured GHG compliance instruments to meet its compliance obligations. DWR also procured GHG compliance instruments to meet contractual obligations unrelated to the Reid Gardner Powerplant.

In February 2013, DWR entered into a power purchase agreement with RE Columbia, LLC to purchase 45 MW of power for 20 years. RE Columbia is a solar photovoltaic project to be constructed in southeastern Kern County. The facility is expected to commence commercial operation by December 31, 2014.

Energy used at the 29 State Water Project (SWP) pumping and generating plants totaled 5.74 million megawatt hours (MWh). To meet SWP energy needs, DWR purchased 2.31 million MWh of energy at a cost of \$85.40 million. This includes: (1) 2.09 million MWh of WSPP short-term energy from 11 marketers (referred to as bilaterals) and one renewable-energy electric utility, at a combined cost of \$73.12 million; (2) 0.22 million MWh of long-term energy, at a cost of \$7.15 million; and (3) \$5.13 million from the bilateral energy trades made through the California Independent System Operator (CAISO).

Pursuant to its excess power sales agreements, DWR sold 1.35 million MWh of energy to 11 WSPP power marketers, long-term contractors, and through bilateral trades with the California Independent System Operator, for a total of \$94.07 million in revenues.

*Information for this chapter was provided by the State Water Project Analysis Office, the SWP Power and Risk Office, and the Hydropower License Planning and Compliance Office.*

 Long-term State Water Project (SWP) water contractors depend on the SWP to obtain economical sources of power in order to deliver affordable water. Consequently, the Department of Water Resources (DWR) administers a comprehensive power resources program. Key elements of the program include studies of power resources for future needs, acquisition of long-term power resources and transmission services, short-term purchases or sales of power, and the strategic operation of generation and pumping facilities.

## Power Resources Program

The goals of the SWP power resources program are to:

- obtain reliable, environmentally sensitive, and competitively priced power resources and transmission services sufficient to operate the SWP;
- develop and manage power resources to minimize the cost of water deliveries to SWP water contractors;
- meet responsibilities and criteria of the Western Electricity Coordinating Council (WECC); and
- conform to regulations of the Federal Energy Regulatory Commission (FERC).

To achieve these goals, DWR constructed its own power facilities. Additionally, DWR enters into long-term contracts and short-term arrangements with other electric utilities and with the California Independent System Operator (CAISO) for transmission access and for power purchases and sales. DWR's generators and pumps provide a mix of regulation, spinning, and nonspinning reserves to the CAISO's ancillary services market. DWR's power resources program also takes advantage of SWP water storage and conveyance capacities, which cost-effectively control pump loads and generation.

## Major Electric Utility Industry Developments

In 2013, CAISO continued to correct real-time market inefficiencies and address the impact of increasing renewable generation. In April, CAISO unilaterally introduced the Energy Imbalance Market (EIM) initiative based on a memorandum of understanding with PacifiCorp. Through EIM, CAISO's Real-Time Market is available to non-CAISO balancing authorities, which provides efficiencies by allowing other regions to share resources that are economically and automatically dispatched in real time to provide balancing energy.

On June 22, 2012, FERC issued Order 764, which addressed the removal of barriers that may have prevented integration of Variable Energy Resources (VERs) to the nation's transmission grid. In response to FERC Order 764, CAISO was required to provide a 15-minute scheduling option at the interties for VERs. The CAISO policy design also added 15-minute energy scheduling and settlement for both internal and external resources to help address Real-Time Imbalance Energy Offset (RTIEO) issues. This fixed market flaws that allowed market manipulation and which led to the suspension of convergence bidding at the interties in November 2011.

On June 1, 2013, CAISO activated its Pay for Performance market for frequency regulation compensation, pursuant to FERC's Order 755. Based on certain performance metrics,

CAISO must provide compensation for frequency regulation service along with the associated generation capacity. A majority of the frequency regulation resources bidding into the CAISO market were unable to meet the new performance metrics. To prevent a large portion of the generation fleet from becoming decertified, CAISO filed for a waiver and a 1-year extension with FERC.

After several years of extending the existing Participating Load Agreement (PLA), which allows SWP load to provide demand response, CAISO agreed to amend several provisions that better protect the SWP due to regulatory limitations. These changes became effective November 15, 2013, when FERC approved the Amended and Restated PLA.

CAISO continued the flexible capacity procurement stakeholder process that had been initiated in January 2012. The stakeholder process was intended to address the need for flexible capacity arising from the increased development of renewable energy resources. It also addressed retiring flexible thermal resources subject to regulatory limits set on once-through cooling power plants. Several revisions of the CAISO proposal led to a final draft version for FERC filing.

The California Public Utilities Commission convened the multiyear reliability framework stakeholder process. The joint reliability framework would require multiyear procurement backstop power that would complement existing resource adequacy obligations. This effort would recommend the needed revisions to the California Public Utilities Commission resource adequacy program and the CAISO capacity procurement mechanism tariff provisions.

CAISO also continued with its stakeholder process to implement tariff changes needed to comply with FERC Order 1000. The order reforms electric transmission planning and cost allocation requirements

for public utility transmission providers. The three primary topic areas were: (1) regional planning and cost allocation; (2) nonincumbent transmission developers; and (3) interregional transmission planning coordination and cost allocation. In 2013, Phase 2 of this CAISO stakeholder process focused on implementing tariff changes to comply with areas 2 and 3 above.

CAISO continued to refine policy for the Renewable Integration Market and Product Review (RIMPR) initiative Phase 2, which focused on mid- to long-term solutions.

Also in 2013, DWR procured greenhouse gas (GHG) compliance instruments to meet its compliance and contractual obligations under the Cap and Trade Program administered by the California Air Resources Board.

## DWR Participation in Electric Utility Industry Activities

DWR continued to participate in CAISO's stakeholder processes to help ensure that tariff and business practice manuals are compatible with SWP operations. DWR's participation in CAISO stakeholder processes focused on the following primary elements:

- Market Initiatives Roadmap;
- RIMPR Phase 2;
- Bid Cost Recovery mitigation;
- Ancillary Service (AS) forced buy back;
- Cost Allocation Guiding Principles;
- Grid Management Charge rate structure for 2014;
- FERC Order 755 Pay for Performance;
- Multi-stage generation enhancements;
- Load Granularity Refinements;
- Full Network Model Expansion;
- Barriers to demand response;
- FERC Order 764 compliance;
- Contingency Modeling enhancements;
- Participating Load refinement;

- Flexible ramping product;
- Energy Imbalance Market (EIM) ;
- Generator Interconnection Procedures;
- Transmission planning;
- FERC Order 1000 compliance;
- Local Capacity procurement for 2014 requirements;
- Annual Resource Adequacy processes including the Path 26 allocation, import allocation, and net qualifying capacity; and
- Flexible Capacity Procurement process for 2015.

In addition, DWR participated in the California Energy Commission's planning processes by submitting a demand forecast to the commission.

Besides CAISO and California Energy Commission stakeholder processes, DWR participated in FERC proceedings to help ensure that various market requirements or cost allocation mechanisms were appropriately structured. This included the following major processes and litigations (with FERC docket number given in parenthesis, if applicable):

- CAISO's Pay for Performance regulation (ER13-995, ER13-1055);
- CAISO's Multi-Stage Generation (MSG) enhancements (ER14-93);
- CAISO's Transmission Constraint Relaxation Parameter (ER13-1060);
- CAISO's Local Market Power Mitigation Phase 2 (ER13-967);
- CAISO's Ancillary Services forced buy back and cost allocation (ER12-1630, ER13-707);
- CAISO's Energy Imbalance Market (ER13-1372);
- CAISO's Market-Based Rate Authority suspension (ER12-103, ER13-830);
- CAISO's Reliability Demand Response Resource (ER13-2192);

- CAISO's extension of Participating Load Agreement (ER13-1365);
- CAISO's Amended and Restated Participating Load Agreement (ER14-406);
- CAISO's GHG compliance costs (ER13-219);
- Procurement of Calpine's Sutter Plant under the Capacity Procurement Mechanism (ER12-897-000);
- Pacific Gas and Electric's (PG&E) TO15 proposal to increase transmission revenue requirement rates for retail and wholesale customers of CAISO (ER13-2022);
- San Diego Gas & Electric's (SDG&E) TO4-Cycle 1 proposal to increase transmission revenue requirement rates for retail and wholesale customers of CAISO (ER13-941);
- Southern California Edison's (SCE) second annual update to its approved Formula Rate (ER11-3697);
- Trans Bay Cable, LLC's proposal to increase transmission revenue requirement rates for retail and wholesale customers of CAISO (ER13-2412);
- SCE's proposed annual update to its Transmission Revenue Balancing Account (ER14-464) and Reliability Services tariff (ER14-222);
- SDG&E's proposed annual update to its Transmission Revenue Balancing Account Adjustment and Transmission Access Charge Balancing Account Adjustment (ER13-602); and
- PG&E's proposed annual update to its Transmission Revenue Balancing Account (ER14-81).

## Bulk Electric System Reliability Standards

### Background

The Energy Policy Act of 2005 assigned to FERC responsibility for the Bulk Electric System reliability and required the creation

of an Electric Reliability Organization. The North American Electric Reliability Corporation (NERC) was named the Electric Reliability Organization by FERC in July 2006 and was tasked with establishing reliability standards for the Bulk Electric System. Compliance with NERC reliability standards is mandatory.

WECC is the implementation vehicle for promoting regional electric service reliability in both western Canada and the western United States. WECC oversees implementation of these standards and validation of compliance, including assessment of penalties and/or sanctions. Details of the NERC standards and the attributes of the compliance program appear in Bulletin 132-11.

### ***NERC Reliability Compliance—Program Improvements***

As part of the Energy Policy Act of 2005, NERC and WECC conduct periodic audits of each entity required to comply with NERC's reliability standards. In February 2012, WECC completed an audit of DWR's compliance record and found possible violations. DWR also identified possible violations through a self-reporting process. To address and resolve these possible violations, DWR entered into a settlement agreement on October 30, 2013. The agreement included a monetary fine and changes to DWR's internal compliance program to improve training, communication, and collaboration to ensure prompt detection, reporting, and mitigation of possible violations. To comply with the settlement, DWR must report to WECC on the results of DWR's improvements by May 30, 2014. As a result of the 2012 audit, DWR hired a consultant to review its compliance structure and program. The consultant's review identified gaps, issues, and inefficiencies in the compliance program.

In 2013, DWR completed an implementation plan to develop improved internal compliance program business processes. The

plan details each compliance activity end-to-end and defines each DWR organization's roles and responsibilities by function. Final approval of the plan is expected in 2014.

DWR is committed to a proactive approach that includes continuous education to ensure an understanding of and adherence to NERC's mandatory reliability standards.

On November 22, 2013, FERC approved Version 5 of NERC's Cyber Infrastructure Protection (CIP) Reliability Standards (CIP Version 5), which is intended to make significant progress in mitigating cyber risks to the Bulk Electric System. CIP Version 5 enforcement is scheduled to be phased-in beginning April 2016 and continuing to April 2017. To ensure compliance, DWR will participate in a transition program that NERC and WECC initiated to improve the industry's understanding of the technical security requirements for CIP Version 5, as well as the expectations for compliance and enforcement.

Beginning in November 2013, NERC implemented the Reliability Assurance Initiative (RAI) program to transition compliance and enforcement away from zero tolerance to a focus on reliability. If DWR is able to demonstrate compliance through effective internal controls and self-monitoring of possible violations, then NERC and WECC have the discretion to alter audit frequency and scope, and disposition methods for noncompliance, including a reduction of monetary penalties.

DWR has continued the work required to meet the compliance requirements of the reliability standards. DWR submitted its annual self-certification to WECC in January 2013, involving operations, maintenance, engineering functions, and work on critical cyber assets. This process required DWR to certify that it was currently in compliance with the requirements of a WECC-determined

subset of standards or provide a violation report supported by a mitigation plan to resolve outstanding items. Violations may lead to financial penalties or reduced operating flexibility.

Every year, NERC creates a 3-year plan to address reliability standards development and revision. The Division of Operations and Maintenance aggressively pursues compliance with standards as they change. DWR also submits mitigation plans to WECC when possible violations were discovered as a result of self-audits.

## Hydropower License Planning and Compliance

DWR holds three hydropower licenses issued by FERC: Oroville Facilities, FERC Project No. 2100; South SWP Hydropower, FERC Project No. 2426 (P-2426); and Pine Flat Transmission Line, FERC Project No. 2876. FERC licenses contain terms and conditions related to operations, maintenance, engineering, dam safety, security, environmental and cultural resources, recreation, and public safety. FERC also conducts safety, security, and environmental inspections, and DWR is required to comply with all findings of the inspections. Compliance with FERC requirements is an important function of DWR organizations since FERC has the authority to levy fines for noncompliance. FERC also considers the record of compliance when considering the term of license renewals.

## Oroville Facilities Relicensing

On January 26, 2005, DWR filed an application with FERC requesting a new license for the Oroville Facilities. (More detailed information about the relicensing process is available in previous editions of Bulletin 132.) The existing 50-year license expired January 31, 2007; FERC is issuing annual licenses until the new license is issued. Issuance of the new license has been delayed pending issuance of the

National Marine Fisheries Service (NOAA Fisheries) biological opinion. No significant developments occurred in 2013.

DWR certified the final environmental impact report on July 22, 2008. One month later, Butte and Plumas counties filed a lawsuit challenging the adequacy of the environmental impact report. The case was heard in January 2012, and the court ruled in DWR's favor. (More detailed information about the original lawsuit is available in previous editions of Bulletin 132). However, Butte and Plumas counties filed an appeal of the decision on August 6, 2012. Opening and responding briefs were filed on February 14, 2013, and June, 24, 2013, respectively. In addition, *State Water Contractors Inc., et al.* filed a respondent's brief on June 10, 2013, and Butte and Plumas counties filed an appellant's reply brief on July 31, 2013.

The Habitat Expansion Agreement submitted by DWR and PG&E to NOAA Fisheries for Central Valley salmon and steelhead in 2010 required preparation of a Habitat Expansion Plan (completed in 2010 with NOAA Fisheries consultation initiated in 2012) and annual reporting of activities undertaken to implement the Habitat Expansion Agreement. On July 9, 2013, DWR submitted an annual report describing the activities of the previous 12 months.

On December 4, 2013, DWR's Hydropower License Planning and Compliance Office filed a letter with the State Water Resources Control Board (SWRCB) petitioning the board to reconsider its annual fee for the Clean Water Act Section 401 water quality certification associated with the Oroville Facilities relicensing effort. The SWRCB issued a water quality certification in 2010 for the relicensing effort, but FERC has not yet issued the new license. The SWRCB's regulations provide for a process through which applicants can petition the board to reconsider the annual fee.

## South SWP Hydropower

On June 7, 2013, DWR released the Notice of Availability of the Draft Initial Consultation Documents (ICD) for applying to FERC to convert the regulatory authorizations for the 17 megawatt (MW) Alamo Powerplant and the existing 32.4 MW Mojave Siphon Powerplant to conduit exemptions. The ICD included an associated draft license amendment application requesting FERC's approval to remove Alamo Powerplant and Mojave Siphon Powerplant and associated lands from the P-2426 license, FERC's then-current regulatory authorization for these facilities, and modify the P-2426 license accordingly. DWR held joint agency meetings in July 2013 to seek input from interested agencies, Native American tribes, and the public on the proposed conduit exemption applications, and the public was allowed 60 days to comment on the applications. There were few comments on the applications, and a related request for information from the SWRCB was addressed in October 2013 to the SWRCB's satisfaction.

## Existing SWP Power Facilities

Figure 10-1 shows the names, locations, and nameplate capacities of DWR's primary power facilities.

### Hydroelectric

Economic hydroelectric generation provides the largest share of SWP power resources. The combined Hyatt Pumping-Generating Plant and Robie Thermalito Pumping-Generating Plant (Hyatt-Thermalito) generate about 2.2 billion kilowatt hours (kWh) of energy in a median water year, while the 3 MW from the Thermalito Diversion Dam Powerplant adds another 24 million kWh per year.

Generation at California Aqueduct recovery plants—Alamo, Devil Canyon, Gianelli, Mojave Siphon, and Warne—varies with the amount of water conveyed. These five plants

generate about one-sixth of the total energy used by the SWP.

### Coal

Since July 1983, under the *Participation Agreement Reid Gardner Unit No. 4* between DWR and NV Energy (NVE), DWR has received energy from Reid Gardner Powerplant, a coal-fired facility in Nevada. Reid Gardner Powerplant consists of four units. DWR owned 67.8 percent of Unit 4, and NVE owned the remainder of Unit 4, as well as all of Units 1, 2, and 3. Under this agreement, DWR received up to 235 MW from Unit 4, subject to NVE's limited right to interrupt DWR's energy deliveries. Whenever NVE interrupted DWR's scheduled energy, DWR received payment based on NVE's combustion turbine costs. The Reid Gardner agreement expired in July 2013, and DWR did not extend or renew this agreement.

## DWR Power Planning Activities

DWR does long-term power planning for the SWP through periodic development of an Integrated Resource Plan. The Integrated Resource Plan concludes with plans for long-term and mid-term power procurements necessary to provide power to operate the SWP and ensure rate stability through energy market disruptions. Initial studies for the next version of the IRP were underway in 2013.

DWR had completed a power planning study in 2011 of the economic viability of a second unit at the Alamo Powerplant, which would be a qualified renewable small hydroelectric facility. The project was shown to provide substantial energy and GHG reduction benefits to DWR. Following the power planning study, DWR initiated a design study in 2012 to determine whether a surge chamber would be required and to conclude the project cost estimates. A project implementation decision will be made following completion of the design and cost studies.



**Figure 10-1 Names, Locations, and Nameplate Capacities of Primary Long-term Power Facilities**

In May 2012, DWR's CEQA (California Environmental Quality Act) Climate Change Committee oversaw the completion of DWR's Climate Action Plan (CAP) Phase I: Greenhouse Gas (GHG) Emissions Reduction Plan that established DWR's overall GHG emissions strategy. CAP Phase I assesses GHG emissions from on-going activities, sets goals for GHG reductions that will exceed State GHG mandates, and presents plans for how emissions reductions will be achieved. It memorialized the previously approved SWP Renewable Energy Procurement Plan, completed in February 2010, as the method to achieve the SWP's CAP Phase I emission reduction goals. DWR initiated renewable energy procurements in late 2012 and 2013 in accordance with the CAP Phase I and Renewable Energy Procurement Plan.

## Contractual Resource Arrangements

Through joint development, DWR obtains a significant amount of capacity and energy for SWP operations from other utilities throughout California and the Southwest. However, with the implementation of the CAISO Market Redesign and Technology Upgrade (MRTU) in April 2009, and implementation of CAISO's power markets that provide access to affordable day-ahead and real-time energy, DWR is less reliant on marketers and other utilities to meet its net energy needs.

### Joint Developments

In 1966, DWR entered into a contract with the Los Angeles Department of Water and Power (LADWP) for joint development of the West Branch of the California Aqueduct. LADWP constructed and operates Castaic Powerplant, which is a pumped-storage facility connected to the LADWP transmission system at the Sylmar Substation. DWR receives capacity and energy at the Sylmar Substation based on weekly water schedules through the West Branch.

Gianelli Pumping-Generating Plant is a joint-use facility owned and operated by DWR and the Bureau of Reclamation. DWR's share is 222 MW, and the Bureau of Reclamation's share is 202 MW.

### Long-term Purchase Agreements

In 1979, DWR entered into a contract with Kings River Conservation District to receive the output of the 165 MW hydroelectric Pine Flat Powerplant. The power plant supplies the SWP with about 400 million kWh of energy in median water years.

DWR also contracts for the energy output of five hydroelectric plants totaling 30 MW owned and operated by The Metropolitan Water District of Southern California (Metropolitan).

In May 2010, DWR entered into an agreement with the Northern California Power Agency (NCPA) and various public agencies to finance, construct, operate, and maintain the Lodi Energy Center—a new 280 MW natural gas combined cycle combustion turbine generation facility that NCPA would own and operate, and from which DWR would receive 33.5 percent of the output. Construction of the Lodi Energy Center began in July 2010 and continued on schedule through 2011. The facility achieved its commercial operation date on November 27, 2012.

In an effort to add "green" generating resources to the SWP's energy portfolio, DWR entered into a renewable Power Purchase Agreement with Alameda Municipal Power. The new contract will provide certified renewable energy, with 28.3 MW from an existing geothermal project and 5.3 MW from landfill gas energy. Under this agreement, DWR will receive an estimated 183,000 megawatt hours (MWh) of annual generation. The geothermal plants are owned and operated by NCPA and are located at The Geysers geothermal field

in Middletown, California. The landfill gas energy under the new contract will come from the Republic Services' Ox Mountain Landfill gas-to-energy plant in Half Moon Bay. The plant is owned and operated by a subsidiary of Ameresco, Inc. Landfill gas is created when organic waste decomposes, producing methane—the primary ingredient in natural gas and a greenhouse gas. The new energy contract will move DWR closer to its goal of reducing emissions by 50 percent below 1990 levels by 2020. The agreement term is October 15, 2012, through December 31, 2016.

In February 2013, DWR entered into a power purchase agreement with RE Columbia, LLC to purchase 45 MW of capacity, energy, and all capacity and environmental attributes for a period of 20 years. RE Columbia is a solar photovoltaic project to be constructed in southeastern Kern County, California. This facility is expected to commence commercial operation by December 31, 2014, and to produce approximately 124,000 MWh of energy annually. The new renewable energy contract will keep DWR on target with its approved 2010 Renewable Energy Procurement Plan.

### ***Short-term Purchase Agreements***

DWR typically transacts with member utilities and energy marketers of the WSPP. In 2013, these transactions included capacity to meet the requirements of resource adequacy, which is a planning and procurement process to ensure adequate resources.

In addition to transactions under the WSPP master agreement, DWR can purchase surplus energy from Metropolitan's Colorado River Aqueduct system according to the terms of the 1988 Coordination Agreement between DWR and Metropolitan. This agreement also provides for monthly surplus firm and economy energy sales from DWR to Metropolitan and energy exchanges between DWR and Metropolitan.

### **Load Management**

DWR operates its pumps through an extensive computerized network. This control system, coupled with the operating flexibility of DWR's pumping and generating plants provided by storage reservoirs, allows DWR to maximize pumping during off-peak periods when power costs are lower—usually at night—and maximize power generation during on-peak periods when power costs are higher. By taking advantage of this scheduling flexibility, when not restricted by operating requirements, SWP pump load and generation are optimized to reduce the net cost of power needed for SWP water deliveries.

### ***Demand Response***

DWR is the largest single supplier of demand response in the CAISO market via a Participating Load Agreement under which DWR bids SWP load to be curtailed by CAISO when the price of energy in the CAISO market reaches DWR's bid price. Due to DWR's water delivery priority, these bids are normally restricted to contingency events.

### **Contractual Transmission Agreements**

DWR has contracts with CAISO, PG&E, and SCE for both transmission interconnections and network transmission service for SWP's power resources and pumping loads.

Under the Comprehensive Agreement with PG&E, DWR interconnects SWP power resources and pumping loads and receives 1,300 MW of firm network transmission service over the PG&E transmission system to serve SWP pump loads and power resources in Northern and Central California. Upon implementation of CAISO's MRTU on April 1, 2009, transmission service to serve the SWP under the Comprehensive Agreement was redefined as point-to-point service. The remaining transmission service in Northern and Central California, which

cannot be provided through the point-to-point service under the Comprehensive Agreement, is received from CAISO. Through the Comprehensive Agreement, DWR also provides a Remedial Action System to PG&E whereby certain SWP pumping and generating plants can be instantaneously curtailed under certain predefined emergency events.

In anticipation of the upcoming termination of the Comprehensive Agreement on December 31, 2014, DWR initiated negotiations with PG&E and CAISO on successor arrangements.

In October 2013, DWR submitted a proposal into the CAISO Transmission Planning Process whereby DWR would continue to provide the Remedial Action System as described in the Comprehensive Agreement past the forthcoming termination of that agreement. The proposal conditioned the provision of the Remedial Action System on the receipt of appropriate compensation.

In Southern California, DWR receives transmission service for SWP loads and resources through CAISO, and DWR has an interconnection agreement with SCE. Additionally, DWR has wholesale distribution service agreements with SCE for service over SCE's distribution transmission system from the CAISO interchange points to SWP loads and resources.

In March 2013, DWR and SCE executed a new interconnection agreement for DWR's new Citrus Pump Station, to be located in San Bernardino County, which is expected to achieve its commercial operation date in 2015.

Under the participation agreement with NVE, DWR receives 235 MW of firm transmission service over NVE's transmission system between Reid Gardner Unit 4 and the El Dorado Substation. Effective July 25, 2013,

this firm transmission service was terminated due to the expiration of the Reid Gardner agreement.

## SWP Power Operations in 2013

Tables 10-1 through 10-4 present historical information about SWP power operations for calendar year 2013, including energy consumed, generated, purchased, and sold.

Please note that, in some instances, the tables in this chapter may not sum as expected due to rounding.

### Energy Consumed

In 2013, energy used at the 29 SWP pumping and generating plants totaled 5.73 million MWh. According to the terms and conditions of various water conveyance contracts and exchange agreements, some water belonging to the Central Valley Project is pumped through Banks and Dos Amigos pumping plants and Gianelli Pumping-Generating Plant. The Bureau of Reclamation furnishes additional energy for this purpose.

Table 10-1 shows the amount of energy used each month at SWP pumping and power generating plants to operate the SWP in 2013, excluding transmission losses.

### Energy Generated and Purchased

Table 10-2 shows the amounts of energy generated at SWP facilities in 2013, as well as energy purchased for SWP operations.

#### Hydroelectric and Coal

The Hyatt-Thermalito power complex in Oroville generated 1.49 million MWh of energy in 2013.

Energy generated at SWP aqueduct recovery plants—Gianelli, Alamo, Devil Canyon, Mojave Siphon, and Warne—totaled 1.08 million MWh.

The SWP share of energy generated at the coal-fired Reid Gardner Powerplant in Nevada totaled 0.49 million MWh. DWR's 67.8 percent ownership share in Reid Gardner Unit 4 ended in July 2013.

## Contractual Resource Arrangements

SWP power operations rely on contractual arrangements as well as SWP facilities. These contractual arrangements include joint development projects and energy purchases.

### Joint Developments

Through the *West Branch Cooperative Development Agreement* with LADWP, DWR receives energy based on the amount of water scheduled through the West Branch. In 2013, LADWP provided 610,768 MWh for DWR's share of energy generated at Castaic Powerplant.

DWR's share of Gianelli Pumping-Generating Plant used 101,647 MWh and generated 86,486 MWh of energy.

### Purchases and Costs

Table 10-3 shows amounts of energy, transmission, and other services purchased in 2013, and the cost of purchases. Amounts include contractual short-term and long-term purchases and associated transactions of energy, transmission, capacity, and ancillary services with CAISO, and miscellaneous energy-related costs.

DWR purchased 2.31 million MWh of energy at a cost of \$85.40 million. Other SWP-related costs include \$9.66 million for transmission service outside CAISO and \$197.55 million for operation, maintenance, and miscellaneous CAISO charges, among other things. Other key costs associated with the latter amount are (1) \$4.31 million for debt service and \$5.18 million for operations and maintenance, both related to Pine Flat Powerplant; (2) \$23.65 million for operations, maintenance, fuel, insurance, waste

removal, and property taxes at Reid Gardner Unit 4; and (3) \$9.45 million for debt service and \$19.85 million for capital improvement, fuel, management, operations, maintenance, and GHG allowance connected to the Lodi Energy Center Project. The \$9.66 million for transmission service outside CAISO includes \$5.72 million for PG&E; \$2.64 million for SCE; and a total of \$1.29 million related to LADWP, NCPA, and NVE.

**Long-term Purchase Agreements.** According to terms of the Kings River Conservation District contract, DWR receives the total output of the 165 MW Pine Flat Powerplant. In 2013, the power plant provided 116,648 MWh of energy to the SWP at an energy component cost of \$913,442.

Under the Metropolitan Small Hydro contract, DWR purchased 109,205 MWh of energy in 2013 from five small hydroelectric power plants on the Metropolitan system at a cost of \$6.23 million.

Also, under the Lodi Energy Center Power Sales Agreement with NCPA, DWR received a purchase credit of \$18 million based on 405,852 MWh generated at the Lodi Energy Center plant during 2013. For reporting purposes, these amounts are part of the total revenues listed in Table 10-4.

### Short-term Energy Purchase Agreements.

Existing resources and long-term power and transmission contracts ensure that the SWP has enough power to meet long-term needs.

When SWP power requirements exceed resources during daily operations, short-term purchases make up the difference. In 2013, the SWP purchased 2.09 million MWh of short-term energy under the WSPP agreement from 11 WSPP marketers and one public electric utility at a cost of \$73.12 million.

**Table 10-1 Energy Used at Pumping Plants and Power Plants in 2013, by Month (megawatt-hours)**

| Pumping Plants and Power Plants                     | Jan            | Feb            | Mar            | Apr            | May            | Jun            | Jul            | Aug            | Sep            | Oct            | Nov            | Dec            | Total            |
|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| Hyatt-Thermalito Power Complex (station service)    | 1              | 0              | 14             | 2              | 0              | 180            | 342            | 46             | 106            | 1              | 0              | 0              | 691              |
| North Bay Interim Pumping Plant                     | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0                |
| Cordelia Pumping Plant                              | 479            | 562            | 314            | 854            | 1,550          | 1,429          | 1,136          | 1,144          | 1,008          | 1,256          | 1,351          | 1,147          | 12,230           |
| Barker Slough Pumping Plant                         | 176            | 206            | 122            | 424            | 1,310          | 1,390          | 1,342          | 1,367          | 1,135          | 1,214          | 711            | 625            | 10,022           |
| South Bay Pumping Plant                             | 3,969          | 6,236          | 7,639          | 14,369         | 13,260         | 12,875         | 14,581         | 12,454         | 10,072         | 11,759         | 10,146         | 7,063          | 124,423          |
| Del Valle Pumping Plant                             | 29             | 26             | 75             | 285            | 119            | 12             | 12             | 14             | 15             | 18             | 23             | 27             | 654              |
| Banks Pumping Plant                                 | 45,893         | 27,354         | 44,594         | 21,348         | 15,731         | 32,243         | 88,404         | 95,369         | 44,786         | 20,253         | 32,982         | 28,479         | 497,438          |
| Gianelli Pumping-Generating Plant (SWP share)       | 23,654         | 4,466          | 19,334         | 0              | 40             | 2              | 3,247          | 23,292         | 4,834          | 339            | 11,750         | 10,689         | 101,647          |
| Dos Amigos Pumping Plant (SWP share)                | 13,660         | 15,426         | 12,737         | 18,916         | 21,489         | 28,113         | 40,000         | 27,443         | 26,233         | 20,967         | 8,491          | 5,984          | 239,460          |
| Buena Vista Pumping Plant                           | 21,859         | 22,376         | 24,005         | 30,821         | 28,107         | 28,509         | 42,530         | 30,919         | 29,526         | 28,594         | 24,590         | 20,806         | 332,642          |
| Teerink Pumping Plant                               | 23,620         | 25,446         | 25,623         | 30,762         | 26,908         | 26,606         | 42,274         | 29,656         | 29,912         | 29,888         | 28,056         | 24,262         | 343,012          |
| Chrisman Pumping Plant                              | 53,080         | 56,521         | 56,577         | 67,109         | 56,857         | 56,124         | 91,023         | 63,545         | 65,174         | 65,944         | 62,472         | 54,202         | 748,627          |
| Edmonston Pumping Plant                             | 194,969        | 207,378        | 207,413        | 244,124        | 204,188        | 199,737        | 327,323        | 288,323        | 235,778        | 239,874        | 230,750        | 200,249        | 2,770,105        |
| Alamo Powerplant (station service)                  | 0              | 0              | 0              | 0              | 0              | 0              | 17             | 47             | 2              | 3              | 6              | 40             | 115              |
| Pearblossom Pumping Plant                           | 36,343         | 33,127         | 21,445         | 27,198         | 24,835         | 24,146         | 27,928         | 25,497         | 26,403         | 36,581         | 26,830         | 11,393         | 321,727          |
| Pine Flat Powerplant (station service) <sup>a</sup> | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0                |
| Mojave Siphon Powerplant (station service)          | 30             | 8              | 14             | 10             | 19             | 17             | 13             | 15             | 11             | 1              | 6              | 65             | 209              |
| Devil Canyon Powerplant (station service)           | 3              | 5              | 2              | 0              | 0              | 1              | 1              | 0              | 0              | 1              | 0              | 125            | 138              |
| Oso Pumping Plant                                   | 7,884          | 10,567         | 14,892         | 16,192         | 12,149         | 11,782         | 25,260         | 14,425         | 15,506         | 12,158         | 15,306         | 18,455         | 174,577          |
| Warne Powerplant (station service)                  | 404            | 265            | 209            | 0              | 2              | 116            | 0              | 2              | 4              | 295            | 210            | 165            | 1,672            |
| Las Perillas Pumping Plant                          | 192            | 340            | 352            | 800            | 1,185          | 1,468          | 1,650          | 1,448          | 844            | 737            | 68             | 121            | 9,204            |
| Badger Hill Pumping Plant                           | 476            | 885            | 912            | 2,084          | 3,011          | 3,597          | 3,869          | 3,603          | 2,111          | 1,844          | 144            | 277            | 22,813           |
| Devil's Den Pumping Plant                           | 897            | 827            | 1,272          | 1,178          | 1,463          | 1,589          | 1,671          | 2,044          | 1,961          | 1,782          | 203            | 658            | 15,544           |
| Bluestone Pumping Plant                             | 842            | 786            | 1,187          | 1,098          | 1,364          | 1,469          | 1,604          | 1,960          | 1,882          | 1,708          | 189            | 609            | 14,697           |
| Polonio Pass Pumping Plant                          | 906            | 846            | 1,282          | 1,186          | 1,476          | 1,586          | 1,648          | 2,020          | 1,943          | 1,758          | 206            | 665            | 15,520           |
| Greenspot Pump Station                              | 1,069          | 104            | 34             | 1,005          | 1,506          | 1,363          | 1,653          | 1,328          | 1,433          | 1,167          | 1,085          | 908            | 12,655           |
| Crafton Hills Pump Station                          | 1,457          | 128            | 25             | 1,237          | 1,553          | 1,582          | 1,850          | 1,487          | 1,414          | 1,445          | 1,368          | 1,262          | 14,808           |
| Cherry Valley Pump Station                          | 106            | 21             | 15             | 94             | 109            | 100            | 107            | 111            | 94             | 106            | 97             | 107            | 1,066            |
| <b>Total Energy Required for SWP<sup>b</sup></b>    | <b>431,997</b> | <b>413,907</b> | <b>440,089</b> | <b>481,096</b> | <b>418,235</b> | <b>436,038</b> | <b>719,482</b> | <b>567,558</b> | <b>502,184</b> | <b>479,693</b> | <b>457,036</b> | <b>388,382</b> | <b>5,735,699</b> |

<sup>a</sup> Pine Flat station service energy provided by CAISO under MRTU operation.<sup>b</sup> Totals may not sum as expected due to rounding.

**Table 10-2 Energy Generated and Purchased in 2013, by Month (megawatt-hours)**

| Sources of Energy  | Jan            | Feb            | Mar            | Apr            | May            | Jun            | Jul            | Aug            | Sep            | Oct            | Nov            | Dec            | Total            |
|--|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|------------------|
| <b>SWP Energy Sources</b>                                |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Hyatt-Thermalito Power Complex                           | 73,412         | 41,977         | 105,384        | 100,325        | 112,095        | 184,973        | 274,644        | 234,591        | 105,461        | 89,408         | 93,877         | 74,482         | 1,490,631        |
| Gianelli Pumping-Generating Plant (SWP share)            | 2,817          | 2,673          | 0              | 18,992         | 22,000         | 20,097         | 2,611          | 117            | 4,010          | 12,439         | 0              | 730            | 86,486           |
| Alamo Powerplant   | 0              | 0              | 0              | 0              | 0              | 0              | 3,910          | 1,688          | 5,210          | 6,599          | 4,712          | 2,082          | 24,200           |
| Mojave Siphon Powerplant                                 | 3,372          | 3,693          | 2,144          | 2,991          | 2,623          | 2,613          | 2,969          | 2,698          | 2,882          | 3,773          | 2,723          | 1,183          | 33,666           |
| Devil Canyon Powerplant                                  | 62,539         | 61,401         | 38,938         | 46,607         | 46,483         | 41,265         | 49,308         | 44,564         | 46,096         | 65,748         | 48,294         | 20,993         | 572,237          |
| Reid Gardner Unit 4                                      | 65,121         | 56,846         | 54,805         | 64,546         | 66,153         | 99,560         | 86,727         | 0              | 0              | 0              | 0              | 0              | 493,758          |
| Warne Powerplant   | 16,735         | 21,674         | 30,916         | 34,653         | 26,613         | 25,611         | 52,513         | 30,748         | 32,764         | 25,584         | 32,045         | 37,706         | 367,561          |
| <i>Subtotal</i>  | 233,997        | 188,264        | 232,188        | 268,114        | 275,967        | 374,119        | 472,682        | 314,407        | 196,423        | 203,551        | 181,650        | 137,176        | 3,068,539        |
| <b>Energy Sources from Long-term Agreements</b>          |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Castaic Powerplant                                       | 25,006         | 34,038         | 51,622         | 57,427         | 44,211         | 43,451         | 85,689         | 50,249         | 53,767         | 45,241         | 55,698         | 64,368         | 610,768          |
| Metropolitan Small Hydro Generation                      | 7,176          | 7,674          | 8,370          | 8,212          | 8,183          | 8,304          | 8,059          | 8,398          | 9,271          | 14,130         | 11,191         | 10,236         | 109,205          |
| Pine Flat Powerplant (Kings River Conservation District) | 0              | 0              | 3,521          | 10,968         | 20,476         | 45,744         | 34,178         | 1,761          | 0              | 0              | 0              | 0              | 116,648          |
| Energy to Metropolitan for CRA <sup>a</sup> Pumping      | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0                |
| Energy from Metropolitan for CRA <sup>a</sup>            | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0                |
| Lodi Energy Center                                       | 27,733         | 34,144         | 42,965         | 45,030         | 10,918         | 26,875         | 41,062         | 31,718         | 30,872         | 33,080         | 35,203         | 46,252         | 405,852          |
| <b>Purchases</b>   |                |                |                |                |                |                |                |                |                |                |                |                |                  |
| Purchases (Firm and WSPP Contracts)                      | 172,195        | 130,000        | 233,685        | 151,783        | 139,337        | 135,243        | 163,609        | 171,843        | 217,211        | 193,919        | 198,312        | 179,922        | 2,087,059        |
| CAISO Energy <sup>b</sup>                                | (3,310)        | 29,386         | (83,087)       | 44,162         | 5,442          | (67,198)       | 59,802         | 140,381        | 90,641         | 32,972         | 44,983         | (19,572)       | 274,604          |
| <i>Subtotal</i>  | 228,800        | 235,243        | 257,076        | 317,582        | 228,568        | 192,419        | 392,400        | 404,357        | 401,761        | 319,342        | 345,386        | 281,207        | 3,604,135        |
| Total Resources  | 452,797        | 423,507        | 489,264        | 585,696        | 504,535        | 566,538        | 865,082        | 718,758        | 598,184        | 522,893        | 527,036        | 418,382        | 6,672,674        |
| Less Energy Sales  | (20,800)       | (9,600)        | (49,175)       | (104,600)      | (86,300)       | (130,500)      | (145,600)      | (151,200)      | (96,000)       | (43,200)       | (70,000)       | (30,000)       | (936,975)        |
| <b>Total Energy Provided to the SWP<sup>c</sup></b>      | <b>431,997</b> | <b>413,907</b> | <b>440,089</b> | <b>481,096</b> | <b>418,235</b> | <b>436,038</b> | <b>719,482</b> | <b>567,558</b> | <b>502,184</b> | <b>479,693</b> | <b>457,036</b> | <b>388,382</b> | <b>5,735,699</b> |

<sup>a</sup> Contractual Resource Arrangement.

<sup>b</sup> Energy provided by CAISO for balancing the total SWP loads and resources.

<sup>c</sup> Totals may not sum as expected due to rounding.

**Table 10-3 Energy, Transmission, and Related Costs in 2013**

| Category                             | Energy Purchased (MWh) | Energy Cost (in dollars) | Transmission Cost Outside CAISO (in dollars) | Other Energy-related Costs (in dollars) | Total Cost (in dollars) |
|--------------------------------------|------------------------|--------------------------|--|---|-------------------------|
| CAISO–Bilateral Trades <sup>a</sup>  |                        | 5,125,684                |  |   | 5,125,684               |
| CAISO–Other <sup>b</sup>             |                        |                          |  | 133,907,800                             | 133,907,800             |
| Energy Marketers–Bilaterals (WSPP)   | 1,905,775              | 67,142,281               |  | 1,186,550                               | 68,328,831              |
| Long-term Contracts <sup>c</sup>     | 225,849                | 7,145,774                | 9,662,694                                    | 62,451,178                              | 79,259,646              |
| Renewable Energy (WSPP) <sup>d</sup> | 181,284                | 5,982,372                |  |   | 5,982,372               |
| <b>Total</b>                         | <b>2,312,908</b>       | <b>85,396,111</b>        | <b>9,662,694</b>                             | <b>197,545,528</b>                      | <b>292,604,333</b>      |

<sup>a</sup> As invoiced.<sup>b</sup> Transmission, capacity, imbalance energy, etc.<sup>c</sup> California Power Exchange, Kings River Conservation District, Los Angeles Department of Water and Power, The Metropolitan Water District of Southern California, NV Energy, Northern California Power Agency, Pacific Gas & Electric Company, and Southern California Edison.<sup>d</sup> Alameda Municipal Power.**Table 10-4 Energy Sold in 2013 and Revenues from Sales per Contract Agreements**

| Category                            | Energy Sold (MWh) | Revenue from Energy Sales (in dollars) | Other Energy-related Revenue (in dollars) | Total Sales (in dollars) |
|-------------------------------------|-------------------|--|---|--------------------------|
| CAISO–Bilateral Trades <sup>a</sup> |                   | 33,352,289                             |   | 33,352,289               |
| CAISO–Other <sup>b</sup>            |                   |  | 47,436,820                                | 47,436,820               |
| Energy Marketers–Bilaterals (WSPP)  | 936,975           | 42,323,955                             | 355,000                                   | 42,678,955               |
| Long-term Contracts <sup>c</sup>    | 413,462           | 18,391,270                             | 1,871,216                                 | 20,262,486               |
| <b>Total</b>                        | <b>1,350,437</b>  | <b>94,067,514</b>                      | <b>49,663,036</b>                         | <b>143,730,550</b>       |

<sup>a</sup> As invoiced.<sup>b</sup> Transmission, capacity, imbalance energy, etc.<sup>c</sup> Los Angeles Department of Water and Power, Northern California Power Agency, NV Energy, City of Santa Clara, and Western Area Power Administration.

## Contractual Sales of Excess Power

In 2013, DWR sold 1.35 million MWh of energy for a total of \$94.07 million. These sales included 936,975 MWh of energy with revenue of \$42.32 million transacted through WSPP and sold to 11 marketers. They also included 413,462 MWh with revenue of \$18.39 million sold to long-term contractors, and \$33.35 million connected to bilateral trades with CAISO. DWR also received \$49.66 million in revenues from capacity and other energy-related services. This value includes, among other things, \$47.44 million for ancillary services transactions made through CAISO. It also includes \$369,135 for ancillary service fees collected from the U.S. Department of Energy, Western Area Power Administration, associated with the June 27, 2012, contract with DWR for CAISO Scheduling Coordinator Services. Under

the terms of this contract, DWR acts as a scheduling coordinator for the joint-use facilities of the San Luis Unit and certain DWR pumping facilities occasionally used to pump federal water. See Table 10-4 for information about energy and other services sold and revenue received.

## Forecasting Power Operations

Each year, after reviewing the SWP water contractors' water delivery requests and the construction schedule for future facilities, DWR forecasts the associated energy consumption and generation through 2035. Short-term power requirements, based on actual water supply and reservoir storage levels, are determined for the current and two ensuing years of operation. Long-term

operational studies for the remaining years are based on median-year water supply conditions and optimal reservoir storage levels. The forecast also includes losses in reservoirs and aqueducts, recreation water, and water to replace storage in reservoirs south of the Delta.

Actual SWP power requirements may vary significantly from the forecast amounts. Those variations are due to the amount of water available and delivered in a given year. For example, dry conditions in Northern California could result in a reduction in the amount of water available for delivery and for generation. If full deliveries could not be made, less power would be used. Power requirements could also decrease during a wet year because of the availability of local water in the San Joaquin Valley or Southern California.

Conversely, power requirements could exceed the amount originally forecast if actual water deliveries are greater than the amounts estimated. For example, if additional pumping is needed to refill reservoirs south of the Delta after an unexpectedly dry year, more power would be used.





## Chapter 11

## Facilities Maintenance

*Devil Canyon Powerplant Second Afterbay.*

## Significant Events in 2013

**M**aintenance, flow testing, and calibration of the Thermalito Diversion Dam's 42-inch fixed cone valve was performed in March 2013. This work was performed in anticipation of its potential future use to make regulatory releases to the low-flow section of the Feather River.

On July 8, 2013, Clifton Court Forebay Intake Structure Gate No. 2 failed and required retrieval from the reservoir. Emergency repair work to return Gate No. 2 to service continued through the remainder of the year under Specification No. 13-15. The subsequent forensic investigation identified the failure of the gate connecting link eyelet (due to wear and corrosion) as the triggering event. The trunnion anchor tendons failed shortly thereafter, allowing the inflow to detach the gate from the control structure.

Full open testing of the Thermalito Diversion Dam's 14 radial gates was performed between September and October 2013.

In 2013, a section of the Gorman Creek improvement channel between Stations 130 and 143 was converted from an open channel to an 8-foot diameter reinforced concrete pipeline.

Construction of the Crafton Hills Reservoir enlargement dam continued during 2013. The Crafton Hills Reservoir enlargement project, which began in January 2012, is not scheduled to be completed until late 2014. The project includes the construction of a new 500-foot long embankment dam, a connector channel enlarging the reservoir, and new access roads.

*Information for this chapter was provided by the Division of Operations and Maintenance, the Division of Safety of Dams, the Division of Integrated Regional Water Management, and the State Water Project Analysis Office.*

The Department of Water Resources (DWR), through the Division of Operations and Maintenance (O&M), monitors all State Water Project (SWP) facilities to ensure safety and reliability. DWR is required, by federal and State law, to contract periodically with independent consultants to review the safety of SWP dams and power facilities.

## Inspecting and Maintaining Project Dams

DWR conducts several types of inspections of SWP facilities to ensure that each dam is safe for continued operation. O&M staff collect and evaluate data regarding the performance of each facility. The Division of Safety of Dams (DSOD) has several programs to ensure the safety of SWP dams. DSOD engineers inspect SWP dams annually, on a fiscal year basis, to ensure they remain safe, are performing as intended, and are not developing problems. These annual inspections also include in-depth instrumentation review of dam surveillance data. Engineers from DSOD also evaluate proposed modifications to existing dams, as well as designs for any proposed new jurisdictional dams. DSOD also oversees construction activities to ensure work is performed in accordance with the approved plans and specifications. The Federal Energy Regulatory Commission (FERC) inspects all licensed SWP facilities annually. These inspections include a review of significant events, instrumentation data, and the visual appearance of each dam, penstock, or power plant. In addition, under FERC and California Water Code requirements, consulting engineers and geologists are retained to evaluate SWP dam facilities every 5 years.

DWR contracts periodically with independent consultants to review the safety of SWP dams and power facilities, except for Pearblossom Spill Basin. Pearblossom Spill Basin Dam was originally designed to be used during misoperation at the Pearblossom Pumping Plant; the spill basin was never fully completed and has never been used.

## Routine Inspections

During 2013, DSOD, along with O&M staff, inspected Bethany, Clifton Court, Del Valle, and Patterson dams in the Delta Field Division as part of the Director's Safety Review Board; Antelope, Frenchman, and Grizzly Valley dams in the Upper Feather River area; Oroville, Thermalito Forebay, Thermalito Afterbay, Thermalito Diversion, Bidwell Canyon Saddle, Parish Camp Saddle, and Feather River Fish Barrier dams in the Oroville Field Division; and Castaic, Crafton Hills, Cedar Springs, Perris, Pyramid, and Devil Canyon Powerplant Second Afterbay dams in the Southern Field Division.

## Joint-use Facility Inspection

The four dams in the San Luis Field Division (Sisk Dam, O'Neill Dam, Los Banos Detention Dam, and Little Panoche Detention Dam) are used jointly with the Bureau of Reclamation (Reclamation) and are not under DSOD jurisdiction. Every 6 years, Reclamation conducts a Comprehensive Facility Review (CFR) of these joint-use facility dams. The CFRs for Sisk Dam, O'Neill Dam, Los Banos Detention Dam, and Little Panoche Detention Dam occurred in 2009. Periodic Facility Reviews (PFRs) are also conducted by Reclamation every 6 years using an alternate schedule spaced between the CFRs. PFRs were conducted for the joint-use facilities in 2012. A joint annual inspection of the facilities with Reclamation, O&M's Dam Safety Branch, and San Luis Field Division was conducted in November 2013.

## Independent Reviews

### California Water Code Reviews

To comply with the California Water Code and the California Code of Regulations, DWR is required to retain a consulting board to review: (1) the adequacy of the design of any dam or reservoir DWR proposes to construct and (2) the safety of the completed construction, including the terms and conditions for the Certificate of Approval.

These provisions require DWR to retain a board of three consultants to meet at least once every 5 years to review the operational performance of DWR-owned dams and more frequently when consulting on new dams. The board of consultants independently reviews and assesses safety conditions of SWP dams.

Consultants are selected based on their knowledge of geotechnical, structural, and civil engineering, including their experience evaluating dam performance. Their independent assessments include the review of dam performance during earthquakes, evaluation of instrumentation data, inspection of each dam, and evaluation of studies performed by DWR. The consultants then prepare reports on each dam, approving dams as safe for continued operation and making recommendations. Based on these recommendations, DWR prepares action plans.

In 2013, an independent consulting Director's Safety Review Board inspection was held for Bethany, Clifton Court Forebay, Del Valle, and Patterson dams. The independent consultants also participated in a Potential Failure Mode Workshop for these dams.

## FERC Reviews

FERC reviews and the FERC Part 12D safety inspections, which may be conducted by one or more consultants, are scheduled

every 5 years. No Part 12D safety inspections occurred for SWP dams in 2013. As a supplement to the FERC Part 12D safety inspection, FERC's Dam Safety Performance Monitoring Program requires that a Potential Failure Mode Analysis be performed for FERC-licensed dams. The Potential Failure Mode Analysis involves document review and site visits to develop a comprehensive list of potential failure modes at each dam. From this review process, three documents are generated: the FERC Part 12D Safety Inspection Report; the Potential Failure Mode Analysis Report; and the Supporting Technical Information document, which summarizes the project elements and details that do not change significantly over time. The FERC monitored facilities are also inspected annually by O&M and the FERC Dam Safety engineer.

## Arroyo Pasajero Program

The Arroyo Pasajero and its tributaries drain approximately 530 square miles of the Diablo Range of the coastal mountains west of the California Aqueduct in Fresno County. Its downstream juncture with the San Luis Canal segment of the California Aqueduct, between Highway 198 and Avenal Cutoff Road, poses a particularly difficult operational and maintenance problem for the SWP. Reclamation designed and constructed the San Luis Canal segment of the California Aqueduct, while DWR operates and maintains it, with all costs shared 45 percent and 55 percent, respectively.

During periods of heavy rainfall, high flows in the Arroyo Pasajero and its tributaries transport heavy sediment loads eroded from the Arroyo Pasajero watershed. Over a vast amount of time, sediment transported by arroyo floods formed a 450-square-mile alluvial fan extending from its apex at the eastern margin of Pleasant Valley (Anticline Ridge) to the San Joaquin Valley trough. The California Aqueduct traverses the arroyo's alluvial fan and forms a barrier to

arroyo flood flows. Flood control facilities, designed to accommodate Arroyo Pasajero floodwater, include the West Side Detention Basin (designed to store floodwater and sediment west of the California Aqueduct), an evacuation culvert to release floodwater east of the California Aqueduct, and drain inlets to release floodwater into the California Aqueduct.

Since the floods of 1969, when nearly all of the detention basin's planned 50-year sediment storage capacity was filled by deposition, DWR and Reclamation have worked to mitigate the effects of heavy flooding and the diminished storage capacity of the detention basin. In 1980, asbestos discovered in The Metropolitan Water District of Southern California's water supply was traced to runoff from the Arroyo Pasajero and other Diablo Range streams. This discovery, in conjunction with the high cost of removing sediment from the California Aqueduct, led DWR to adjust operating procedures to minimize runoff entering the California Aqueduct. The volume of runoff and sediment transported by the Arroyo Pasajero is roughly 400 percent greater than was originally estimated during the design of the detention basin in the mid-1960s.

## DWR and DWR/Reclamation Alternative Long-term Solution

Construction to restore the storage capacity of the West Side Detention Basin started in August 2004, and many of the designed improvements were completed by the summer of 2005. These improvements restored the storage capacity to the detention basin and added control over releases of floodwater into the California Aqueduct and onto private farmland. The intended 50-year level of protection was achieved by raising levees, adding a control structure equipped with an inflatable rubber dam, installing flood gates, and acquiring flood easements. As of 2013, the basin's flood control features continued to function as expected.

In 2009, DWR signed the certificate of acceptance for the deeds for easements and lands acquired via litigation. The deeds were recorded, and the process to transfer the rights to Reclamation, as required by the joint-use agreement, was initiated. In 2011, the transfer documents were completed and submitted to Reclamation for acceptance.

In 2012, DWR worked with Reclamation staff to address issues with the transfer documents. The biggest issue was the State's use of Director's deeds to transfer the titles verses warranty deeds that are required by Reclamation. Work to address the transfer documents continued in 2013.

The West Side Detention Basin is an area of interest in the U.S. Environmental Protection Agency (EPA) Atlas Mine Area Operable Unit Record of Decision issued by the EPA in 1991. Five-year reviews of the Atlas Mine Area Operable Unit began in 2001, and have continued every 5 years since. In fall 2010, as a part of the upcoming 2011 review cycle, DWR toured the basin with representatives from the EPA and inspected all of the basin flood control features as well as soil berms, gates, locks, and signs used to deter soil disturbing activities. The EPA released its Five-Year Review Report in August 2011. The report contained various recommendations for DWR to take into consideration while operating the basin. As of 2013, DWR continued its standard operating procedures within the basin to comply with the EPA's Comprehensive Environmental Response Compensation and Liability Act (Superfund law).

## Related Activities

In September 2011, the California Department of Transportation (Caltrans) informed DWR that it had funding through final design on the proposed bridge project at Lassen Avenue (State Route 269) over Arroyo Pasajero. DWR provided comments on the current project study report in October 2011, which focused on flood control and the

ongoing O&M needs of DWR's field division staff to properly maintain the channel. During 2012, Caltrans requested clarification of DWR's previously recommended borrow sites. Due to concerns over flood impacts and O&M operations, DWR provided Caltrans with a new recommended borrow site located within the Westside Detention Basin land already owned in fee title. Throughout 2013, DWR worked with Caltrans to accommodate heavy equipment passage underneath the proposed bridge to allow DWR to continue its O&M operations to properly maintain the channel.

### Cantua Creek Stream Group

Planning for a restoration project similar to the West Side Detention Basin restoration project began in 2006 for the Cantua Creek Stream Group detention basins. The project goal is to improve aqueduct flood protection and water quality between Mileposts 128.48 and 141.57.

A feasibility-level study for the Cantua Creek Stream Group Improvements Project, completed in April 2011, identified actions such as raising embankments, making modifications to structures, and acquiring flood easements to provide a 50-year level of protection for the California Aqueduct at the Cantua Creek Stream Group. Improving water quality in the aqueduct was a significant goal of the study, since currently, several of the existing drain inlets are not gated, and sediment-laden floodwater flows directly into the aqueduct with little detention and decanting. It is widely understood that increasing flood storage and detention of this floodwater prior to releasing it into the California Aqueduct would provide a significant benefit to water quality in the aqueduct. In 2013, cultural studies were completed with a finding of no adverse effect, and the hoist stem at the gated box inlet at Milepost 136 (Laguna Avenue) was repaired. By the end of 2013, DWR Division of Engineering's design plans for this project were 90 percent complete.

## Repairs, Modifications, and Inspections

DWR continually monitors all SWP facilities and performs repairs, modifications, and inspections as necessary to ensure safe, reliable water delivery.

### Inspections

In 2013, Condition Assessment Program inspections were performed on more than 28 different reaches of the SWP for more than 291 miles of canals and pipelines. To aid in maintenance efforts, check structures, culverts, drain inlets, overchutes, turn-ins, turnouts, gauging stations, recreational facilities, and utility crossings along the canal were inspected and rated.

### Oroville Field Division

In the Oroville Field Division, features that were inspected included the Richvale Canal, Western Canal, and Thermalito tailrace and their associated structures. Gauging stations that were inspected included the Feather River Fish Barrier, Mill Sap Bar, Pacific Gas & Electric Company, Sutter Buttes outlet, and Thermalito Afterbay outlet.

Recreational facilities that were inspected included the Bruce Wallace Memorial Field, Diversion Pool Day Use Area, and the Feather River Fish Hatchery and overlook.

Boat launches that were inspected included Dark Canyon, Enterprise, Foreman Creek, Larkin Road, Lime Saddle, Loafer Creek, Monument Hill, Nelson Bar, Stringtown, North Thermalito Forebay, South Thermalito Forebay, Vinton Gulch, and Wilbur Road.

During 2013, the Thermalito Forebay Dam bypass radial gate was inspected with rope access methods. The results of the inspection led to the replacement of wire hoist ropes and connection hardware, seal plate adjustments, bolt replacements, and rebalancing of the gate.

Additional riprap was added to the left bank of the Robie Thermalito Pumping-Generating Plant's tailrace channel due to riprap degradation from large releases from the bypass radial gate. Dive inspections of the Thermalito Forebay bypass gate's approach bay, spillway, and the plant's tailrace apron were performed. Bathymetry of the tailrace channel was also performed. The inspections and bathymetry verified the satisfactory condition of these features.

O&M's Dam Safety Branch and Oroville Field Division conducted post-earthquake dam safety inspections of Antelope, Frenchman, and Grizzly Valley dams after the May 23, 2013, magnitude 5.7 earthquake located 6.8 miles northwest of Greenville, California. The inspections revealed no damage to the dams or their appurtenant structures.

### ***Delta Field Division***

In the Delta Field Division, features along 51 miles of the California Aqueduct were inspected, including portions of the South Bay Aqueduct. Two hundred twenty-nine California Aqueduct features were inspected spanning 5 repayment reaches and 13 aqueduct pools.

### ***San Luis Field Division***

In the San Luis Field Division, features along 122 miles of the California Aqueduct were inspected, including Panoche Creek Siphon (Barrel No.1). Five hundred twenty-six California Aqueduct features were inspected, spanning 7 repayment reaches and 13 aqueduct pools.

### ***San Joaquin Field Division***

In the San Joaquin Field Division, features along 54 miles of the California Aqueduct were inspected, including portions of the Coastal Branch. Two hundred four California Aqueduct features were inspected, spanning 7 repayment reaches and 15 aqueduct pools.

### ***Southern Field Division***

In the Southern Field Division, features along 64 miles of the West and East branches of the California Aqueduct were inspected, including a portion of the Santa Ana Valley Pipeline, Ritter Siphon, Leona Siphon, and the Gorman Creek Improvement Channel. Three hundred eighty California Aqueduct features were inspected, spanning 10 repayment reaches and 20 aqueduct pools.

### ***Other Inspections***

In addition to the conveyance facilities, 87 bridges were inspected as part of a regularly scheduled maintenance program, along with 150 roofs of SWP buildings. SWP access roads are routinely inspected by staff in each field division as they traverse the hundreds of miles of paved and unpaved roadways daily. Staff reports of distressed and problematic areas result in road repair projects. In 2013, approximately 50 miles and 10.5 acres of pumping plant compound and parking areas were repaired using seal and pave contracts.

Condition Assessment Program inspections are scheduled annually, biennially, or every 5 years. Future inspections will aim to identify trends in maintenance and aging of the SWP.

### ***Repairs***

#### ***Dos Amigos Pumping Plant***

In January 2013, a sinkhole located at the Siphon Breaker Control House Building at the Dos Amigos Pumping Plant in the San Luis Field Division triggered subsurface investigation and testing. The repair of suspected leaking pipeline joints in all six discharge pipelines was done with WEKO seals where needed, on both upstream and downstream sides of the siphons. The remediation of soil around and underlying the pipelines at a transition joint and other areas located on the downstream side of the siphons was completed through fluid backfill grouting and compaction grouting.

### ***Cedar Springs Dam***

A rock slope protection repair was completed in February 2013 at Cedar Springs Dam. The repaired area was upstream of the dam's right groin, and the purpose of the repair was to restore the design slope of the nearby beached embankment area. The repair addressed a recommendation made by DSOD during an annual inspection.

### ***Clifton Court Forebay***

On July 8, 2013, Clifton Court Forebay Intake Structure Gate No. 2 failed and required retrieval from the reservoir. Emergency repair work to return Gate No. 2 to service continued through the remainder of the year under Specification No. 13-15. The subsequent forensic investigation identified the failure of the gate connecting link eyelet (due to wear and corrosion) as the triggering event. The trunnion anchor tendons failed shortly thereafter, allowing the inflow to detach the gate from the control structure.

### **Outages for Maintenance and Repair of Facilities**

Table 11-1 presents information, arranged chronologically, about significant scheduled and unscheduled outages at SWP pumping and power plants in 2013. The table includes information about incidents resulting in outages of 14 days or more.

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

1 of 7

| Month   | Facility                                  | Unit | Outage Description  |
|---------|---|------|---|
| January | Banks Pumping Plant                       | 6    | January 1 to February 1 for Condition Assessment Program inspection and hydraulic preventive maintenance; continued from October 15, 2012 |
|         | Banks Pumping Plant                       | 8    | January 2 to June 19 for water in lower guide bearing   |
|         | Banks Pumping Plant                       | 10   | January 1 to November 1 for discharge valve refurbishment; continued from May 4, 2012   |
|         | Barker Slough Pumping Plant               | 6    | January 1 to December 31 for motor and pump refurbishment; continued from June 7, 2012  |
|         | Cordelia Pumping Plant                    | 2    | January 1 to January 31 for removing motor; continued from November 8, 2012   |
|         | South Bay Pumping Plant                   | 3    | January 1 to May 15 for motor install; continued from November 26, 2012   |
|         | South Bay Pumping Plant                   | 5    | January 15 to February 27 for repair of high-pitch noise  |
|         | South Bay Pumping Plant                   | 9    | January 1 to February 27 for motor removal and repair; continued from September 14, 2012  |
|         | South Bay Pumping Plant                   | 10   | January 1 to January 16 for motor/pump coupling and testing; continued from December 18, 2012   |
|         | South Bay Pumping Plant                   | 12   | January 1 to November 15 for pump removal; continued from October 31, 2012  |
|         | South Bay Pumping Plant                   | 13   | January 1 to June 4 for motor removal and replacement; continued from October 15, 2012  |
|         | Hyatt Powerplant                          | 2    | January 1 to June 20 for cold water rotary strainer repair; continued from April 1, 2010  |
|         | Hyatt Powerplant                          | 5    | January 1 to December 31 for thrust bearing restriction; continued from September 28, 2012  |
|         | Hyatt Powerplant                          | 6    | January 1 to July 25 for water leaking from turbine; continued from December 9, 2011  |
|         | Robie Thermalito Pumping-Generating Plant | 1    | January 1 to December 31 for fire damage; continued from November 22, 2012  |
|         | Robie Thermalito Pumping-Generating Plant | 2    | January 1 to December 31 for fire damage; continued from November 22, 2012  |
|         | Robie Thermalito Pumping-Generating Plant | 3    | January 1 to December 31 for fire damage; continued from November 22, 2012  |
|         | Robie Thermalito Pumping-Generating Plant | 4    | January 1 to December 31 for fire damage; continued from November 22, 2012  |
|         | Alamo Powerplant                          | 1    | January 1 to July 10 for governor oil pump failing to shut down; continued from May 23, 2012  |

**Table 11-1** Outages for Maintenance and Repair of Facilities in 2013, by Month

| Month | Facility                           | Unit | Outage Description   |
|-------|------------------------------------|------|--|
|       | Pearblossom Pumping Plant          | 2    | January 1 to January 26 for amortisseur/rotor repair; continued from July 25, 2012                 |
|       | Badger Hill Pumping Plant          | 2    | January 1 to January 29 for 12X reverse overspeed  |
|       | Bluestone Pumping Plant            | 3    | January 1 to September 13 for pump rebuild   |
|       | Devil's Den Pumping Plant          | 1    | January 1 to June 20 for pump refurbishment  |
|       | Edmonston Pumping Plant            | 12   | January 1 to December 11 for pump and motor refurbishment; continued from November 6, 2011         |
|       | Polonio Pass Pumping Plant         | 1    | January 1 to December 31 for pump rebuild; continued from September 6, 2012                        |
|       | Chrisman Pumping Plant             | 2    | January 1 to December 31 for pump and motor refurbishment; continued from August 3, 2011           |
|       | Chrisman Pumping Plant             | 6    | January 1 to February 26 for discharge line inspection; continued from December 3, 2012            |
|       | Chrisman Pumping Plant             | 7    | January 1 to February 26 for discharge line inspection; continued from December 3, 2012            |
|       | Teerink Pumping Plant              | 1    | January 1 to December 31 for KYA transformer refurbishment; continued from November 5, 2012        |
|       | Teerink Pumping Plant              | 2    | January 1 to July 9 for KYA transformer refurbishment; continued from November 5, 2012             |
|       | Teerink Pumping Plant              | 3    | January 1 to July 9 for KYA transformer refurbishment; continued from November 5, 2012             |
|       | Teerink Pumping Plant              | 4    | January 1 to May 14 for KYA transformer refurbishment; continued from November 5, 2012             |
|       | Teerink Pumping Plant              | 5    | January 1 to May 13 for KYA transformer refurbishment; continued from November 5, 2012             |
|       | Dos Amigos Pumping Plant           | 4    | January 4 to April 17 for discharge pipe leaking   |
|       | Dos Amigos Pumping Plant           | 5    | January 1 to February 28 for motor guide bearing; continued from July 6, 2012                      |
|       | Giannelli Pumping-Generating Plant | 1    | January 1 to December 31 for annual pump and motor refurbishment; continued from September 6, 2011 |
|       | Giannelli Pumping-Generating Plant | 5    | January 1 to May 7 for unit overhaul   |
|       | Giannelli Pumping-Generating Plant | 6    | January 1 to May 7 for unit overhaul   |
|       | Giannelli Pumping-Generating Plant | 7    | January 1 to May 3 for head cover leakage  |
|       | Pine Flat Powerplant               | 1    | January 1 to June 1 for penstock #1 excavation work; continued from December 1, 2012               |

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

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| <b>Month</b> | <b>Facility</b>            | <b>Unit</b> | <b>Outage Description</b>   |
|--------------|----------------------------|-------------|---|
|              | Pine Flat Powerplant       | 2           | January 1 to March 4 for annual switchyard maintenance; continued from October 29, 2012 |
|              | Pine Flat Powerplant       | 3           | January 1 to March 4 for annual switchyard maintenance; continued from October 29, 2012 |
| February     | Banks Pumping Plant        | 4           | February 28 to April 4 for upper seal repair  |
|              | Cordelia Pumping Plant     | 1           | February 8 to April 5 for pipeline and reservoir work                                   |
|              | Cordelia Pumping Plant     | 2           | February 8 to April 5 for pipeline and reservoir work                                   |
|              | Cordelia Pumping Plant     | 3           | February 8 to April 5 for pipeline and reservoir repairs                                |
|              | Cordelia Pumping Plant     | 4           | February 8 to April 5 for pipeline and reservoir repairs                                |
|              | Crafton Hills Pump Station | 1           | February 4 to March 29 for EBX pipeline outage  |
|              | Crafton Hills Pump Station | 2           | February 4 to March 29 for EBX pipeline outage  |
|              | Crafton Hills Pump Station | 3           | February 4 to March 29 for EBX pipeline outage  |
|              | Crafton Hills Pump Station | 4           | February 4 to March 29 for EBX pipeline outage  |
|              | Cherry Valley Pump Station | 1           | February 4 to March 29 for EBX pipeline outage  |
|              | Cherry Valley Pump Station | 2           | February 4 to March 29 for EBX pipeline outage  |
|              | Cherry Valley Pump Station | 3           | February 4 to March 29 for EBX pipeline outage  |
|              | Greenspot Pump Station     | 1           | February 4 to March 25 for EBX pipeline outage  |
|              | Greenspot Pump Station     | 2           | February 4 to March 25 for EBX pipeline outage  |
|              | Greenspot Pump Station     | 3           | February 4 to March 25 for EBX pipeline outage  |
|              | Greenspot Pump Station     | 4           | February 4 to March 25 for EBX pipeline outage  |
|              | Greenspot Pump Station     | 5           | February 4 to March 27 for EBX pipeline outage  |
|              | Mojave Siphon Powerplant   | 3           | February 6 to March 7 for check 66 Trash Rack   |
|              | Pearblossom Pumping Plant  | 5           | February 4 to February 28 for Condition Assessment Program inspection                   |
|              | Edmonston Pumping Plant    | 3           | February 11 to February 27 for Condition Assessment Program inspection                  |
|              | Edmonston Pumping Plant    | 10          | February 25 to April 4 for troubleshooting 64f ground                                   |
|              | Dos Amigos Pumping Plant   | 3           | February 28 to April 23 for discharge pipe leaking                                      |
|              | Dos Amigos Pumping Plant   | 5           | February 28 to June 5 for leaking discharge line  |
|              | Dos Amigos Pumping Plant   | 6           | February 28 to May 1 for leaking discharge line   |

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

| Month | Facility                  | Unit | Outage Description   |
|-------|---------------------------|------|--|
| March | Cordelia Pumping Plant    | 2    | March 29 to May 1 for overcurrent relay trip   |
|       | South Bay Pumping Plant   | 1    | March 4 to March 21 for mechanical seal leak repair                                  |
|       | South Bay Pumping Plant   | 1    | March 26 to December 31 for unit 1 discharge valve stuck open-discharge line drained |
|       | South Bay Pumping Plant   | 2    | March 26 to April 19 for unit 1 discharge valve stuck open-discharge line drained    |
|       | South Bay Pumping Plant   | 4    | March 26 to April 19 for unit 1 discharge valve stuck open-discharge line drained.   |
|       | Devil Canyon Powerplant   | 1    | March 4 to March 29 for Condition Assessment Program inspection                      |
|       | Bluestone Pumping Plant   | 5    | March 18 to April 19 for 86M lockout   |
|       | Chrisman Pumping Plant    | 4    | March 5 to April 29 for discharge line #2 repair                                     |
|       | Chrisman Pumping Plant    | 5    | March 5 to April 29 for discharge line #2 repair                                     |
|       |                           |      |  |
| April | Banks Pumping Plant       | 4    | April 4 to April 26 for drain valve leak repair                                      |
|       | Banks Pumping Plant       | 11   | April 26 to August 21 for BA10 bumphead removal                                      |
|       | Hyatt Powerplant          | 1    | April 29 to May 25 for penstock #1 for HY2 assembly                                  |
|       | Hyatt Powerplant          | 3    | April 29 to May 25 for penstock #1 for HY2 assembly                                  |
|       | Mojave Siphon Powerplant  | 3    | April 10 to May 10 for Condition Assessment Program inspection                       |
|       | Pearblossom Pumping Plant | 6    | April 2 to May 17 for Condition Assessment Program inspection                        |
|       | Warne Powerplant          | 2    | April 15 to May 10 for KY2 annual Condition Assessment Program inspection            |
|       | Buena Vista Pumping Plant | 1    | April 11 to May 1 for installation of new power circuit breaker                      |
|       | Buena Vista Pumping Plant | 4    | April 3 to December 31 for overhaul  |
|       | Chrisman Pumping Plant    | 1    | April 2 to May 20 for discharge line #1 repair                                       |
| May   | Chrisman Pumping Plant    | 3    | April 2 to May 20 for discharge line #1 repair                                       |
|       | Chrisman Pumping Plant    | 6    | April 30 to May 15 for discharge line #3 work  |
|       | Chrisman Pumping Plant    | 7    | April 30 to May 15 for discharge line #3 work  |
|       | Dos Amigos Pumping Plant  | 4    | April 17 to June 7 for discharge pipe leaking  |
|       | Cordelia Pumping Plant    | 2    | May 2 to August 29 for failure to start  |
|       | South Bay Pumping Plant   | 3    | May 15 to December 31 for discharge valve replacement                                |
|       | Pearblossom Pumping Plant | 4    | May 13 to June 6 for Condition Assessment Program inspection                         |

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

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| Month     | Facility                           | Unit | Outage Description  |
|-----------|------------------------------------|------|---|
| May       | Warne Powerplant                   | 1    | May 13 to June 10 for biennial preventive maintenance and Condition Assessment Program inspection |
|           | Buena Vista Pumping Plant          | 1    | May 6 to May 24 for Condition Assessment Program inspection                                       |
|           | Edmonston Pumping Plant            | 14   | May 6 to May 28 for K8A transformer annual preventive maintenance                                 |
|           | Chrisman Pumping Plant             | 8    | May 15 to May 31 for discharge line #4 repair   |
|           | Chrisman Pumping Plant             | 9    | May 15 to May 31 for automatic voltage regulator out of service                                   |
|           | Giannelli Pumping-Generating Plant | 2    | May 14 to December 4 for penstock #1 out for bumphead   |
|           | Giannelli Pumping-Generating Plant | 7    | May 23 to December 31 for turbine pit flooding  |
|           | Barker Slough Pumping Plant        | 3    | June 30 to July 25 for failure to start   |
|           | Hyatt Powerplant                   | 4    | June 4 to June 22 for work on penstock #2   |
|           | Devil Canyon Powerplant            | 4    | June 6 to June 26 for governor and wheel pit Condition Assessment Program inspection              |
| June      | Bluestone Pumping Plant            | 2    | June 5 to July 2 for KYA Doble test and breaker problem   |
|           | Dos Amigos Pumping Plant           | 1    | June 7 to June 28 for installation of grout monitoring equipment                                  |
|           | Reid Gardner Powerplant            | 4    | July 19 to December 31 for separated from State service: contract expired                         |
|           | Mojave Siphon Powerplant           | 2    | July 8 to August 2 for governor caps  |
|           | Oso Pumping Plant                  | 8    | July 6 to November 5 for oil leaking from motor housing   |
| July      | Bluestone Pumping Plant            | 1    | July 1 to December 31 for failure to synchronize to grid  |
|           | Edmonston Pumping Plant            | 5    | July 22 to August 12 for discharge valve lead abatement and brush preventive maintenance          |
|           | South Bay Pumping Plant            | 11   | August 23 to December 30 for realignment and vibration test                                       |
|           | Alamo Powerplant                   | 1    | August 7 to August 29 for water intrusion in thrust tub   |
|           | Buena Vista Pumping Plant          | 5    | August 5 to December 31 for stator rewind/rotor replacement                                       |
| August    | Edmonston Pumping Plant            | 7    | August 13 to August 28 for discharge valve lead abatement   |
|           | Edmonston Pumping Plant            | 9    | August 27 to September 12 for lead abatement  |
|           | Banks Pumping Plant                | 4    | September 19 to October 17 for breaker rack problem   |
|           | Banks Pumping Plant                | 5    | September 23 to October 17 for 87M wiring research  |
|           | Devil Canyon Powerplant            | 3    | September 9 to September 27 for unit cap  |
| September | Devil Canyon Powerplant            | 4    | September 27 to November 7 for motor housing water leak   |

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

| Month    | Facility                   | Unit | Outage Description   |
|----------|----------------------------|------|--|
| October  | Pearblossom Pumping Plant  | 3    | September 3 to September 26 for Condition Assessment Program inspection          |
|          | Edmonston Pumping Plant    | 11   | September 3 to September 18 for lead abatement                                   |
|          | Chrisman Pumping Plant     | 9    | September 9 to December 31 for packing inspection                                |
|          | Teerink Pumping Plant      | 9    | September 3 to October 1 for mechanical repairs                                  |
|          | Dos Amigos Pumping Plant   | 1    | September 21 to October 25 for 64 relay work                                     |
|          | Dos Amigos Pumping Plant   | 6    | September 3 to December 31 for biannual preventive maintenance                   |
|          | Polonio Pass Pumping Plant | 6    | October 29 to December 6 for excessive pump bearing noise and high temperature   |
|          | Banks Pumping Plant        | 4    | November 5 to December 31 for reverse over speed discharge valve closed          |
|          | Banks Pumping Plant        | 10   | November 9 to November 25 for discharge valve failed to open                     |
|          | Devil Canyon Powerplant    | 2    | November 13 to December 13 for annual Condition Assessment Program inspection    |
| November | Oso Pumping Plant          | 3    | November 4 to December 31 for refurbish/overhaul/rewind and discharge valve work |
|          | Oso Pumping Plant          | 4    | November 4 to December 31 for refurbish/overhaul/rewind and discharge valve work |
|          | Oso Pumping Plant          | 5    | November 4 to December 31 for refurbish/overhaul/rewind and discharge valve work |
|          | Oso Pumping Plant          | 6    | November 4 to December 31 for refurbish/overhaul/rewind and discharge valve work |
|          | Badger Hill Pumping Plant  | 1    | November 2 to November 22 for trash rack replacement                             |
|          | Badger Hill Pumping Plant  | 2    | November 2 to November 22 for trash rack replacement                             |
|          | Badger Hill Pumping Plant  | 3    | November 2 to November 22 for trash rack replacement                             |
|          | Badger Hill Pumping Plant  | 4    | November 2 to November 22 for trash rack replacement                             |
|          | Badger Hill Pumping Plant  | 5    | November 2 to November 22 for trash rack replacement                             |
|          | Badger Hill Pumping Plant  | 6    | November 2 to November 22 for trash rack replacement                             |
| December | Bluestone Pumping Plant    | 2    | November 2 to November 24 for Coastal Aqueduct outage                            |
|          | Bluestone Pumping Plant    | 3    | November 2 to November 24 for Coastal Aqueduct outage                            |
|          | Bluestone Pumping Plant    | 4    | November 2 to November 24 for Coastal Aqueduct outage                            |
|          | Bluestone Pumping Plant    | 5    | November 2 to November 24 for Coastal Aqueduct outage                            |

**Table 11-1 Outages for Maintenance and Repair of Facilities in 2013, by Month**

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| <b>Month</b> | <b>Facility</b>            | <b>Unit</b> | <b>Outage Description</b>  |
|--------------|----------------------------|-------------|--|
| November     | Bluestone Pumping Plant    | 6           | November 2 to November 24 for Coastal Aqueduct outage  |
|              | Devil's Den Pumping Plant  | 1           | November 2 to November 22 for Coastal Aqueduct outage  |
|              | Devil's Den Pumping Plant  | 2           | November 2 to November 23 for Coastal Aqueduct outage  |
|              | Devil's Den Pumping Plant  | 3           | November 2 to November 23 for Coastal Aqueduct outage  |
|              | Devil's Den Pumping Plant  | 4           | November 2 to November 25 for Coastal Aqueduct outage  |
|              | Devil's Den Pumping Plant  | 5           | November 2 to December 6 for Coastal Aqueduct outage   |
|              | Devil's Den Pumping Plant  | 6           | November 2 to November 26 for Coastal Aqueduct outage  |
|              | Polonio Pass Pumping Plant | 2           | November 2 to November 24 for Coastal Aqueduct outage  |
|              | Polonio Pass Pumping Plant | 3           | November 2 to November 27 for Coastal Aqueduct outage  |
|              | Polonio Pass Pumping Plant | 4           | November 2 to November 24 for Coastal Aqueduct outage  |
|              | Polonio Pass Pumping Plant | 5           | November 2 to November 24 for Coastal Aqueduct outage  |
|              | Banks Pumping Plant        | 8           | December 12 to December 31 for Megger rotor and continuity test                                      |
| December     | Hyatt Powerplant           | 1           | December 2 to December 31 for replacing turbine guide and system maintenance                         |
|              | Mojave Siphon Powerplant   | 1           | December 1 to December 26 for dive for slide gate stop log   |
|              | Mojave Siphon Powerplant   | 2           | December 1 to December 21 for dive for slide gate stop log and inspecting/repairing discharge valves |
|              | Mojave Siphon Powerplant   | 3           | December 1 to December 24 for dive for slide gate stop log and inspecting/repairing discharge valves |
|              | Pearblossom Pumping Plant  | 1           | December 2 to December 19 for inspecting/repairing discharge line #1                                 |
|              | Pearblossom Pumping Plant  | 2           | December 2 to December 19 for inspecting/repairing discharge line #1                                 |
|              | Pearblossom Pumping Plant  | 3           | December 2 to December 19 for inspecting/repairing discharge line #1                                 |





## Chapter 12

# Engineering, Construction, and Real Estate

*The Perris Dam Remediation Project includes engineering analysis of the left reach of the embankment dam and foundation.*

## Significant Events in 2013

In 2013, engineering, construction, and real estate work to enhance, expand, repair, and protect the State Water Project (SWP) and other facilities within the State continued. Significant projects included the South Bay Aqueduct (SBA) enlargement, expansion of the South Bay Pumping Plant, Perris Dam remediation, and the East Branch Extension Phase I Improvements and Phase II projects.

The Delta Habitat Conservation and Conveyance Program (DHCCP) continued with studies in 2013 to assess potential habitat restoration and water conveyance options.

*Information for this chapter was provided by the Division of Engineering.*

Initial construction of the State Water Project (SWP) facilities began in 1957 with the relocation of the Western Pacific Railroad facilities and Highway 70 near the City of Oroville to accommodate the SWP Oroville Facilities. Oroville Dam was constructed between 1961 and 1967. Construction of the South Bay Aqueduct (SBA) facilities started in 1960, and the first SWP water was delivered through the SBA in 1962 to serve Alameda County.

In 1963, work began on the California Aqueduct, and by 1968, the SWP was delivering water to long-term contractors in the San Joaquin Valley to the foot of the Tehachapi Mountains. By 1973, with the completion of Edmonston Pumping Plant at the foot of the Tehachapi Mountains and other East Branch conveyance facilities, the SWP was delivering water to Lake Perris at the southernmost point in Riverside County.

Other water deliveries took place as follows:

- 1968—the first SWP water was delivered through the first phase facilities of the North Bay Aqueduct and through the first phase facilities of the Coastal Branch;
- 1974—the first SWP water was delivered through the West Branch facilities to Los Angeles County;
- 1988—SWP water was delivered through the second phase facilities of the North Bay Aqueduct to Solano County; and
- 1997—SWP water was delivered through the second phase facilities of the Coastal Branch Aqueduct to San Luis Obispo and Santa Barbara counties.

Prior to the completion of the initial facilities in 1973, work began on the Upper Feather River facilities to supply local water, recreation, and fish enhancement. Power plants, additional pumping units, and turbine-generators that had previously been deferred were built to ensure water quality and fish enhancement in the Delta.

From 1974 through 2013, design and construction activities included repairing concrete lining failures or potential failures of the canal system and concrete pipeline sections, replacing equipment components of existing facilities, enlarging or extending aqueduct reaches, refurbishing pump-turbine units, and adding pumps and motors to existing facilities. Specific projects included constructing the Devil Canyon Second Afterbay, constructing Phase II of the Coastal Branch, extending the SWP through the East Branch Extension to the San Gorgonio Pass service area in San Bernardino and Riverside counties with enlargements and expansions in later years, enlarging the SBA, remediating earthquake safety issues at Perris Dam, and assessing potential habitat restoration and water conveyance options in the Delta.

## Design Activities

In 2013, work to enhance, expand, repair, and protect SWP water delivery facilities continued. Engineering activities supported more efficient water deliveries within the confines of legal and environmental constraints and power availability. Significant projects included Perris Dam remediation design and preliminary and final designs for the East Branch Extension Phase II projects. Table 12-1 (at the end of the chapter) provides a list of completed and ongoing design work that was undertaken in 2013.

The Department of Water Resources (DWR), Division of Engineering (DOE) continued to design projects for development into the

construction phase, including awarding construction contracts. DOE staff worked with many DWR divisions and offices, as well as local, State, and federal agencies. DOE staff prepared preliminary designs and estimates; developed and administered construction contract documents and carried out construction projects; and conducted special studies of dams, canal embankments, and other SWP facilities.

Study and design activities continued from previous reporting periods, or initiated in 2013, included the following:

- Oroville, Thermalito, and Pyramid dams radial gate structural re-evaluation—design;
- Sherman and Twitchell islands fish screens—final design;
- North Bay Aqueduct alternate intake—study;
- Sisk Dam seismic re-evaluation—study;
- Edmonston, Chrisman, Teerink, and Buena Vista pumping plants—septic tank replacement—design;
- San Joaquin Field Division—emergency generator replacement—design;
- East Branch Enlargement, Phase II—preliminary design and environmental documents;
- Perris Dam emergency release extension—design;
- Los Robles Bridge seismic analysis—design; and
- Clifton Court radial gate repairs—design.

In 2013, DOE staff completed the following designs:

- Edmonston, Chrisman, Teerink, and Buena Vista pumping plants—furnish and install annunciator panels;
- Los Banos Creek Detention Dam—recoat outlet works piping;

- Gorman Creek Improvement Channel south of Orwin Way—pipeline installation and channel repairs;
- Delta and San Luis field divisions—seal and pave roads and parking areas;
- San Joaquin Field Division—cathodic protection and insulated coupling vaults;
- San Joaquin Field Division, Badger Hill Pipeline—repair;
- Antelope Valley-East Kern Water Agency—turnout replacement;
- East Branch Extension, Phase II—furnish 5 kilovolt (kV) switchgear, Citrus and Crafton Hill pump stations;
- Perris Dam—embankment remediation;
- SWP—copper communication cable and voice and data equipment monitoring, testing, and repair.

## Environmental Activities

Since the inception of the SWP, environmental issues have increased in magnitude with the enactment of numerous federal and State laws. DWR has complied with these laws by seeking appropriate permits, preparing environmental compliance documents, and incorporating environmental requirements and conditions into the design and execution of construction projects. Environmental scientists work with design engineers to produce projects that meet SWP objectives while having the least impact possible on the environment. Construction contract specifications and plans are reviewed and modified with environmental compliance requirements and sensitive resource protection needs in mind. Ongoing construction activities are monitored to ensure compliance with requirements outlined in environmental permits for each contract.

## Delta Habitat Conservation and Conveyance Program

In 2008, as a result of calls by the Governor and Legislature to protect the Delta, the

Delta Habitat Conservation and Conveyance Program (DHCCP) was established, prompting studies to assess potential habitat restoration and water conveyance options. The DHCCP is conducting an environmental review of the Bay Delta Conservation Plan (BDCP). The lead agencies preparing the joint draft environmental impact report/environmental impact statement (EIR/EIS) for the BDCP are DWR, the California Department of Fish and Wildlife, the Bureau of Reclamation (Reclamation), the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service.

During 2013, the DHCCP continued to:

- support processes and alternative analyses needed to obtain permits required under Clean Water Act Sections 401(b)(1) and 404 and Title 33 U.S.C. 408 Navigation and Navigable Waters;
- maintain, update, and manage a database of questions, comments, and information requests related to the DHCCP and BDCP EIR/EIS;
- update the BDCP website and coordinate with other Delta-related programs regarding the DHCCP environmental and engineering process;
- develop a strategy to communicate DHCCP activities to others; and
- respond to comments received from State and federal agencies on the administrative draft EIR/EIS and BDCP.

The environmental component of the DHCCP includes environmental impact analysis, California Environmental Quality Act and National Environmental Policy Act document preparation, environmental surveys, mitigation, and all associated permitting requirements. Approval of the BDCP, its EIR/EIS, and associated documents is essential to obtaining required permits. The BDCP and corresponding EIR/EIS contain more than 34,000 pages and are

the culmination of 7 years of analysis and hundreds of public meetings.

In 2013, the DHCCP accomplished the following:

- completed and released the public draft of the BDCP and its EIR/EIS documents, and posted both documents to the website for public review in December 2013;
- completed and released conceptual engineering reports for BDCP Conservation Measure 1 describing the east, west, and tunnel alternatives for water conveyance;
- coordinated and executed a BDCP outreach tour throughout the Central Valley, Los Angeles, and San Diego focused on providing project briefings and engaging in dialogue about the project with journalists, elected officials, labor interests, and agricultural interests;
- held informational meetings and presentations on the BDCP for the tribal communities, trade organizations, Delta landowners, Stone Lakes National Wildlife Refuge, Delta Conservancy, Delta Vision Forum, Delta counties, and State legislators' staff;
- collected, reviewed, and provided information for several Public Records Act requests;
- completed a draft geotechnical data report documenting the data collected from field exploration and laboratory tests from 2009 through 2012; and
- completed draft DHCCP design standards.

More information can be found on the BDCP website.

## Construction Activities

DOE worked on 58 construction contracts in 2013. Projects included fire clean-up, pipeline repair, control systems upgrades, and recreation and maintenance facility

improvements at dam and reservoir sites. Table 12-2 (at the end of the chapter) shows information for construction contracts. Resolution of contract claims may extend the actual contract closeout beyond the completion or acceptance date.

## SWP—General

### *SWP Supervisory Control and Data Acquisition System*

A contract (Specification No. 08-12) to replace portions of the aging SWP supervisory control and data acquisition system began in May 2009 and continued in 2013. This contract will furnish and install 176 controller assemblies for the replacement of remote terminal units located throughout the SWP and will furnish 16 controller assemblies for Devil Canyon Powerplant and DWR's development lab at the Joint Operations Center. The controller assemblies are being put together from components furnished by the contractor (programmable logic controllers, sequence-of-event recorders, fiber patch panels, modems, and other equipment). Work is scheduled to be completed in January 2015. Acceptance is expected in May 2015.

## Oroville Division

### *Brad B. Freeman Bike Trail Realignment*

Realignment of the bike trail (Specification No. 13-03) in the Lake Oroville State Recreation Area began in May 2013. The work included rock-fill delivered by barges, installation of corrugated metal pipe, chain-link fencing with gates, and aggregate base for the bike path. Work was completed in July 2013. Acceptance is expected in March 2014.

### *Robie Thermalito Pumping-Generating Plant—Cleanup and Restoration Phase I*

Initial cleanup of the Robie Thermalito Pumping-Generating Plant (Specification No. 13-16) began in October 2013. The work involves cleaning and repairing all fire-

impacted equipment; installation of new roll-up doors; procedure testing of essential systems; and a new heating, ventilation, and air-conditioning system. Work also includes repair of spalled concrete, roof, and skylights; cleaning electrical components in the switchyard; and other cleanup as deemed necessary by the engineer. Work is scheduled to be completed in October 2014. Acceptance is expected in January 2015.

### *Oroville Operations and Maintenance Center*

A new garage shop was constructed and site work was performed for a temporary building under a contract (Specification No. 11-03) that began in August 2011. This work is part of the Oroville Facilities Relicensing project. Work was completed in September 2013. Acceptance is expected in March 2014.

## South Bay Aqueduct

### *SBA Enlargement and Improvement*

The SBA Enlargement and Improvement projects will restore the first 16.38 miles of the SBA to the 300 cubic feet per second (cfs) design flow and increase the design capacity by up to 130 cfs. This work will enlarge the South Bay Pumping Plant to accommodate four additional 45 cfs units, construct a third discharge line, construct Dyer Reservoir, enlarge the canals, and modify associated structures. Projects are described below.

**Canal Modifications.** Various modifications were performed along Dyer Canal, Livermore Canal, Alameda Canal, and Del Valle Pipeline under a contract that began in October 2010 (Specification No. 09-16). Work included raising the canal lining, canal embankment, and operating roads; removing, modifying, installing, and constructing various structures, including overchutes, inlets, pipes, bridges, trash racks, siphons, check structures, water-level measurement systems, radial gates, motors, control systems, flowmeters, and valves; and

raising/refurbishing Patterson Reservoir. Work was completed in April 2012. Acceptance is expected in June 2014.

**Siphon and Check Structure Modifications.** A contract (Specification No. 08-21) to fabricate 10 radial gates, radial gate hoist assemblies (with associated control systems), and electric actuators for SBA check structures began in January 2009. Also included in this contract are the fabrication of stoplogs and stoplog storage racks, one trash removal system for Dyer-Altamont Check No. 2, and two trash removal systems for Del Valle Check No. 7. Work was completed in June 2011. Acceptance is expected in January 2014.

**Transmission Line and Modifications to Banks Switchyard.** Construction of a new 69 kV transmission line from South Bay Pumping Plant to Banks Pumping Plant and modifications to the Banks Switchyard began in October 2009 (Specification No. 09-06). The new transmission line will increase the South Bay Pumping Plant power supply capacity and reliability while decreasing the unit cost of power. The Banks Switchyard modifications will allow a power step-down from 230 kV to 69 kV. Project work also includes installation of DWR-furnished transformers and equipment; furnishing and installing prefabricated control buildings, 13.8 kV distribution line poles and equipment, a new substation, and switchgear and equipment; and removing and disposing of existing 13.8 kV and 5 kV power distribution lines. Work was completed in November 2012. Acceptance is expected in April 2014.

**South Bay Pumping Plant.** The following contracts for the SBA Enlargement project at South Bay Pumping Plant continued throughout 2013.

Specification No. 04-05: furnish 45 cfs pump and motor units for Unit Nos. 10 through 13 and one spare pump and motor. Work began

in November 2004 and continued throughout 2013. Work is scheduled to be completed in 2014. Acceptance is expected in June 2014.

Specification No. 04-20: furnish valves, actuators, and hydraulic power units. Work began in May 2005. The equipment was furnished in June 2007. Repairs to the butterfly valves were added to this contract by change order. Work is scheduled to be completed in 2014. Acceptance is expected in June 2014.

Specification No. 05-10: furnish switchyard equipment. Work began in September 2005 and was completed in 2012. Additional work added by a contract change order furnished equipment for the Banks Switchyard expansion to accommodate the new 69 kV transmission line from Banks Pumping Plant to South Bay Pumping Plant in 2013. Acceptance is expected in February 2014.

Specification No. 05-05: furnish 5 kV switchgear. Work began in October 2005 and is expected to be completed in 2014. Acceptance is expected in June 2014.

Specification No. 06-04: enlarge pumping plant initial facilities. Work began in August 2006 and is expected to be completed in 2014. Acceptance is expected in June 2014.

Specification No. 07-02: furnish power transformers. Work began in April 2007 and was completed in September 2008. The work was accepted in January 2013.

Specification No. 07-18: added work included repairs to a water system pipeline adjacent to Banks Pumping Plant. Work began in December 2007. Work is scheduled to be completed in 2014. Acceptance is expected in June 2014.

**Surge Tanks.** Work to seismically retrofit Surge Tank Nos. 1 and 2 (Specification No. 11-11) began in October 2011. Work

included modifying existing footings to add post-tensioned rock anchors, replacing steel pipe and sleeve couplings, and adding steel cladding at the existing surge tanks. Additionally, reinstallation/replacement of cross connection piping, earthwork, electrical work, application of coatings, abatement of lead-based paint, and installation of miscellaneous metalwork such as grating, ladders, cages, handrails, and hatches was performed. Work was completed in October 2012 and accepted in February 2013.

**Del Valle Dam.** Bulkhead installation and removal (Specification No. 12-14) began in October 2012. Original contract work included labor, materials and construction equipment, hauling of construction equipment for installation and removal of a DWR-furnished bulkhead gate, repairing cracks inside the flood control outlet works tunnel, applying coatings to bulkhead gate and flood control outlet works tunnel slide gates, painting station markings on the inside of the Del Valle spillway tunnel, and installing a metal walkway. In addition to the original contract work, additional tasks were performed under change order. These tasks included:

- urgent repair of a leak on the SBA Pipeline at Mileposts 38.90, 33.83, and 35.34;
- Thermalito Powerplant recovery efforts;
- Clifton Court Forebay gate repair;
- open channel flowmeter installation at Dyer Reservoir;
- Del Valle floodgate repair;
- Hyatt Powerplant clean up; and
- furnishing WEKO-SEALS (internal joint seals).

Work was completed in December 2012. Acceptance is expected in January 2014.

## North San Joaquin Division

### *Skinner Fish Science Building*

The Delta Fish Survival Improvements Program (Specification No. 12-15) began in December 2012. Work consisted of construction of a cold-formed steel frame building with restroom, office space, and break room facilities. The project included the demolition of existing items, as specified:

- asphalt concrete paving;
- concrete and reinforcing steel;
- concrete curb and gutter;
- chain-link fencing;
- traffic gates;
- metal beam guardrail; and
- cathodic protection.

Work was completed in September 2013. Acceptance is expected in May 2014.

## *Skinner Fish Facility*

Work began in July 2013 (Specification No. 13-15) to remove, clean, and repair three stoplogs at the Skinner Fish Facility. It also includes the removal, cleaning, and repair of five loading gates. The repairs, at the discretion of the engineer, are scheduled to be completed in January 2014. Acceptance is expected in March 2014.

## San Luis Division

### *Dos Amigos Pumping Plant—Trash Rake System*

A contract (Specification No. 08-06) to design, manufacture, deliver, install, and test one complete automatic trash rake system and to manufacture, deliver, and install trash racks began in January 2009. Work was completed in November 2012 and accepted in February 2013.

### ***Gianelli Pumping-Generating Plant—Heating, Ventilation, and Air-Conditioning System Replacement***

Heating, ventilation, and air-conditioning systems were replaced under a contract (Specification No. 10-22) that began in April 2011. Work was completed in January 2013 and accepted in March 2013.

### ***Chowchilla Canal Bypass Structure—Radial Gate Modifications***

Radial gate modifications (Specification No. 12-17) began in September 2012. Work included stoplog and sandbag removal, coatings, paint and coating removal, and radial gate modifications. Work was completed in November 2012 and accepted in February 2013.

### ***Los Banos Creek Detention Dam—Outlet Works Piping***

Work began in July 2013 (Specification No. 13-04) at the Los Banos Creek Detention Dam to recoat 525 feet of the discharge pipe. The work involves stripping and recoating the interior and exterior of the pipe, the release and discharge slide gates, ladder, handrail, bulkhead gate, and various other piping. The work is scheduled to be completed in February 2014. Acceptance is expected in October 2014.

### ***Delta and San Luis Field Divisions—Seal and Pave Roads and Parking Areas***

Work began in July 2013 (Specification No. 13-06) to seal and pave roads and parking areas in Alameda, Contra Costa, Stanislaus, Santa Clara, Merced, Kings, and Fresno counties. Work was completed in November 2013. Acceptance is expected in June 2014.

### ***Tehachapi Division***

#### ***Edmonston Pumping Plant—Pump Unit Replacement***

A contract to replace pump Units W2, W4, W6, and W8 (Specification No. 02-10) began in June 2003. Work was completed in March 2011. Delivery of additional spare parts was later added to the contract through a change order. Delivery and acceptance is expected in November 2015. Work consisted of:

- designing, fabricating, and testing a four-stage pump model and a single-stage pump model, and furnishing a pump model test program report;
- designing, manufacturing, delivering, storing, and installing four pumps to replace existing pumps;
- furnishing spare parts, auxiliary equipment, tools, and templates;
- applying coatings;
- providing liaison services; and
- furnishing additional spare parts requested via change order.

Under a contract (Specification No. 11-02) that began in June 2011, the contractor furnished and delivered spare parts for the seven Baldwin-Lima-Hamilton pumps and discharge valves at Edmonston Pumping Plant. Spare parts included labyrinth seals, shaft seals, casing and impeller wear rings, shaft sleeves, wear plates, valve seal rings and pistons, and patch bolts. Work was completed in February 2013 and accepted in June 2013.

### ***Edmonston Pumping Plant, Teerink Pumping Plant, and Control Buildings at Various Sites***

Roofing replacement (Specification No. 12-06) began in October 2012. The work includes removing and replacing the existing roof assemblies at Edmonston and Teerink pumping plants, Devil Canyon Penstock

Control Building, and 15 other control buildings. Work is scheduled to be completed in January 2014. Acceptance is expected in July 2014.

### ***Chrisman and Devil's Den Pumping Plants***

Site improvements (Specification No. 12-12) began in December 2012. The work included:

- repairing and coating water discharge pipe sleeve couplings and expansion joints;
- constructing temporary scaffolds with containment structures for sandblasting and cleaning the joints;
- removing sandblast dust and debris; and
- removing and replacing 160 feet of 12-inch diameter steel pipe.

Work was completed in June 2013. Acceptance is expected in July 2014.

### ***Gorman Creek Improvement Channel—Pipeline Installation and Channel Repairs***

Work on the Gorman Creek Improvement Channel, south of Orin Way (Specification No. 13-05), began in June 2013. The work involved removing 1,300 feet of the existing concrete channel and replacing it with 96-inch reinforced concrete pipe. The work also included a subsurface drainage system that will divert groundwater away from the channel. Work was completed in November 2013. Acceptance is expected in April 2014.

### ***East Branch Canal—Lining Repair***

This repair at Milepost 342.65 (Specification No. 13-10) began in July 2013. The work includes dewatering Pool 52, removing and repairing concrete panels, repairing and cleaning concrete, replacing bolt anchors and ladders, and repairing the access road. Work is scheduled to be completed in January 2014. Acceptance is expected in May 2014.

### ***Antelope Valley-East Kern Water Agency Turnout***

Construction of the Antelope Valley-East Kern turnout (Specification No. 13-11) began in August 2013. The work involves excavation, a temporary coffer dam, erosion control, steel pipe and fittings, concrete work, miscellaneous metal work, a trash rack, and backfilling. The contractor will perform demolition of the concrete liner and existing drainage ditch and removal of an existing asphalt concrete road. Work is scheduled to be completed in August 2014. Acceptance is expected in December 2014.

### ***Mojave Division***

#### ***Reaches 18A and 22B***

Work began in July 2010 to seal and pave roads and parking areas in the Southern Field Division (Specification No. 10-03). Work was completed in May 2012 and accepted in January 2013. Added work included:

- sealing and paving roads on the California Aqueduct, West Branch, Reach 29G (Los Alamos Campground Access Road, Gorman Creek Siphon, Pyramid Lake Road, and Vaquero Campground parking lot); and
- asbestos abatement and/or testing at Chrisman Pumping Plant.

### ***Cedar Springs Dam***

A contract to replace conduits and perform miscellaneous work at Cedar Springs Dam began in March 2011 (Specification No. 10-06). Work was completed in July 2012. Acceptance is expected in January 2014.

### ***Pearblossom Pumping Plant***

A contract to construct a new 20,000 square-foot Pearblossom Administration Building near Pearblossom Pumping Plant began in February 2011 (Specification No. 10-23). The new building, which was designed and will be operated to attain the Leadership

in Energy and Environmental Design gold rating, will be occupied by Southern Field Division staff and Lancaster Project Headquarters personnel. Work was completed in February 2013. Acceptance is expected in June 2014.

## Santa Ana Division

### *East Branch Extension Phase I Improvements*

The East Branch Extension Phase I improvements will provide additional operational flexibility, system reliability, and will reduce on-peak energy demands.

#### **Crafton Hills Reservoir Enlargement.**

A construction contract (Specification No. 11-12) to increase the reservoir's operating storage from 85 acre-feet (af) to approximately 225 af began in December 2011. The work includes an earthen embankment dam with rock slope protection, access roads, grouting, a seepage collection system, geotechnical instrumentation, and mechanical aerators. Work is scheduled to be completed in July 2014. Acceptance is expected in December 2014.

### *East Branch Extension Phase II*

Phase II of the East Branch Extension will complete the planned capacity increase for the East Branch Extension. Phase II will allow San Gorgonio Pass Water Agency to receive its maximum annual Table A water and allow the San Bernardino Valley Municipal Water District to increase its distribution system capacity to its Redlands and Yucaipa Valley service areas. Principal Phase II features include approximately 6 miles of new 72-inch and 66-inch diameter pipe, a new reservoir (Citrus Reservoir), a new 160 cfs pump station (Citrus Pump Station), expansion of the existing Crafton Hills Pump Station, and installation of an additional pump at Cherry Valley Pump Station.

**Citrus Reservoir.** Construction of Citrus Reservoir (Specification No. 12-02) began in June 2012. The work to construct the reservoir includes selective demolition, excavation, compacted soil liner, hydraulic asphalt concrete, inlet works, and environmental protection. Work is scheduled to be completed in 2014. Acceptance is expected in October 2014.

**Mentone Pipeline.** Construction of Mentone Pipeline (Specification No. 12-03) began in July 2012. The work to construct the pipeline includes approximately 2 miles of 72-inch buried steel pipe from Foothill Pump Station to Citrus Reservoir and approximately 3.5 miles of 66-inch buried steel pipe from Citrus Pump Station to Crafton Hills Pump Station. Work is scheduled to be completed in 2014. Acceptance is expected in December 2014.

**Valves.** Manufacturing, testing, and delivery of three energy dissipating valve assemblies (including electric actuators) for Citrus Reservoir began in September 2010 (Specification No. 10-10). The valves were delivered to the site in October 2012. Work was completed in March 2013. Acceptance is expected in June 2014.

Manufacturing, testing, and delivery of 14 ANSI (American National Standards Institute) butterfly valve assemblies with actuators for Citrus Pump Station, Crafton Hills Pump Station, and Cherry Valley Pump Station began in January 2011 (Specification No. 10-16). Work was completed in mid-2013. Acceptance is expected in June 2014.

Manufacturing, testing, and delivery of 12 AWWA (American Water Works Association) butterfly valve assemblies with actuators for Crafton Hills Pump Station, Cherry Valley Pump Station, and Mentone Pipeline began in February 2011 (Specification No. 10-17). Work was

completed in mid-2013. Acceptance is expected in June 2014.

Manufacturing, testing, and delivery of 12 ANSI ball valve assemblies with actuators and 4 actuators for Citrus Pump Station, Crafton Hills Pump Station, and Cherry Valley Pump Station began in January 2011 (Specification No. 10-18). The valves were delivered to the site in October 2012. Work was completed in July 2013. Acceptance is expected in June 2014.

**Transformers.** Transformers, accessories, tools, and spare parts will be manufactured, tested, and delivered for Citrus Pump Station under a contract (Specification No. 10-20) that began in March 2011. Work is scheduled to be completed in May 2015. Acceptance is expected in August 2015.

### ***Santa Ana Pipeline***

Construction to repair the Santa Ana Pipeline (Milepost 422.5) under Warm Creek (Specification No. 12-11) began in September 2012 and was completed in February 2013. The work was accepted in October 2013. Work included the repair of approximately 306 feet of 102.5-inch outside diameter steel liner inside prestressed concrete cylinder pipe.

### ***Crafton Hills and Citrus Pump Stations***

Construction on the Crafton Hills Pump Station expansion and Citrus Pump Station initial work (Specification No. 12-10) began in October 2012. Work includes construction of a prestressed concrete forebay water tank and pump station buildings; earthwork, shoring, and demolition; installation of a hydraulic asphalt concrete liner, steel pipe and appurtenances, DWR-furnished materials, and equipment; application of coatings; and testing. Work is scheduled to be completed in March 2014. Acceptance is expected in August 2014.

### ***Citrus, Crafton Hills, and Cherry Valley Pump Stations***

Work began in June 2013 on the contract (Specification No. 13-01) to provide equipment and the associated hardware (pumps, motors, variable frequency drives, and excitation systems) for the Citrus, Crafton Hills, and Cherry Valley pump stations. Work is scheduled to be completed in April 2015. Acceptance is expected in December 2015.

### ***West Branch***

#### ***West Branch (Reach 29G) General***

Under a change order to Specification No. 10-03, the following work began in July 2011:

- Los Alamos Campground Road: paving, striping, signage, shoulder repair, and drainage improvements;
- Gorman Creek Siphon: embankment erosion repair along the shoulder of Pyramid Lake Road; and
- Vaquero Parking Lot: refurbishment.

Work was completed in May 2012 and was accepted in February 2013.

### ***Oso Pumping Plant***

Work began in December 2007 to construct a 14,400 square-foot civil maintenance and mobile equipment building at Oso Pumping Plant (Specification No. 07-22). Work is scheduled to be completed in 2014. Acceptance is expected in June 2014; however, required added work, including a water treatment facility, may delay occupancy until late 2014.

## Construction Activities in Multiple Divisions

### *Delta Facilities, Suisun Marsh Facilities, and California Aqueduct*

Work on a multiyear (2010 through 2012) contract to install and remove seasonal temporary rock barriers in designated South Delta waterways, provide temporary agricultural pumping facilities, place and remove flashboards at the Suisun Marsh Salinity Control Structure, dredge areas of the South Delta, and remove aquatic weeds in Clifton Court Forebay and other Delta waterways began in March 2010 (Specification No. 09-21). Work was completed in February 2013 and accepted in October 2013. The temporary barriers are installed to enhance water levels and circulation in the South Delta for local agricultural diversion, to assist fish migration, and to gather hydraulic data for the design of future permanent barriers. Added work included:

- Delta Facilities: installation of a nonphysical barrier at Georgiana Slough;
- Delta Facilities: modifications to the fish release site at Curtis Landing;
- Delta Facilities: removal of trees at Horseshoe Bend;
- Suisun Marsh Facilities: urgent repairs to the Roaring River Slough levee;
- North San Joaquin Division: repair of cracks in the embankment of the California Aqueduct, vicinity of Milepost 88.96; and
- South San Joaquin Division: repair of a boil in the California Aqueduct, vicinity of Milepost 248.97, Reach 13B.

### *Temporary Rock Barriers 2013, 2014, and 2015*

This project (Specification No. 12-18) began in January 2013. Work includes two tasks related to the Temporary Barriers Program. The first task involves the removal of

temporary rock barriers and appurtenances at Middle River, Old River, and Grant Line Canal. Other first-task work includes temporary pumping facilities, dredging in the South Delta, removal of aquatic weeds in Clifton Court Forebay, installation of stone protection in the South Delta, and structural maintenance and repair at the Curtis Landing and Horseshoe Bend fish release sites. The second task includes furnishing, installing, and removing a nonphysical barrier at the head of Georgiana Slough and possibly other Delta divergence locations. Work is scheduled to be completed in December 2015. Acceptance is expected in March 2016.

### *Buena Vista Pumping Plant and Chrisman Pumping Plant*

Roofing repairs at Buena Vista and Chrisman pumping plants (South San Joaquin Division) and at Warne Powerplant (West Branch) (Specification No. 10-19) began in October 2010. Work was completed in 2011 and accepted in January 2013.

### *San Joaquin and Southern Field Divisions*

Construction to seal and pave roads within the San Joaquin and Southern field divisions (Specification No. 12-08) began in August 2012. Work is scheduled to be completed in December 2013. Acceptance is expected in February 2014.

### *Delta, San Luis, San Joaquin, and Southern Field Divisions*

Installation of copper communication cable (Specification No. 12-04) began in June 2012. Work is scheduled to be completed in January 2014. Acceptance is expected in March 2014.

### *Edmonston, Chrisman, Teerink, and Buena Vista Pumping Plants—Replace Annunciator Panels*

The work (Specification No. 13-09) that began in November 2013 consists of

replacing 57 annunciator panels and the associated hardware for the equipment. Work is scheduled to be completed in January 2015. Acceptance is expected in March 2015.

### ***Devil's Den, Bluestone, and Polonio Pass Pumping Plants—Cathodic Protection Rehabilitation***

Work began in September 2013 (Specification No. 13-13) to remove encasement at insulating coupling flanges and install new insulating sleeve couplings inside new cast-in-place vaults. Work is scheduled to be completed in January 2014. Acceptance is expected in March 2014.

### ***Badger Hill Pipeline—Repair***

Work began in November 2013 (Specification No. 13-14) to remove and replace the existing lining in manifolds and pipeline, construct a flow metering vault, remove and replace a joint at Check 66, and remove and reinstall pipe spool pieces. Work is scheduled to be completed in April 2014. Acceptance is expected in June 2014.

### ***Miscellaneous Construction Activities***

The following non-SWP construction activities are categorized as miscellaneous.

### ***Erosion Repair and Bank Protection***

Work began in September 2011 (Specification No. 11-06) to repair erosion along the San Joaquin River (River Mile 71.5R). The work includes:

- fencing;
- protection of native trees;
- removal of trees, brush, and debris;
- earthwork;
- rock slope protection;
- installation of erosion control fabric;
- asphalt, concrete, and pavement repairs;

- planting, seeding, and irrigation;
- placement of in-stream woody materials; and
- plant establishment.

Work was completed in December 2013. Acceptance is expected in March 2014.

A minor contract to repair levee erosion along the Sacramento River at Miles 36.8L, 46.7L, and 56.6L (Specification No. 12-09) began in August 2012. Work was completed in November 2012 and accepted in February 2013.

### ***North Levee Setback***

Construction began in July 2013 (Specification No. 13-02) on Cache Creek at Miles 3.9 and 4.2 to remove trees and vegetation, demolish the existing patrol road, construct a new levee and ramp, realign and construct a new county road, and seed the area. Work was completed in August 2013. Acceptance is expected in May 2014.

### ***North Channel Crossing Replacement***

Work began on the San Joaquin River Parkway, Sycamore Island in July 2013 (Specification No. 13-08) to remove vegetation, rubbish, and existing corrugated metal pipe culvert; replace the multiplate culvert with concrete footings; and complete earthwork on the existing embankment, new guard railing, and erosion protection. Work was completed in November 2013. Acceptance is expected in March 2014.

### ***Habitat Restoration***

In October 2010, work began on a contract (Specification No. 10-14) to restore the Sycamore Creek habitat as a condition of the U.S. Army Corps of Engineers nationwide permit for the Sycamore Creek sediment removal project (Specification No. 10-13). Work is scheduled to be completed and accepted in July 2014. The work includes seeding, plantings, an irrigation system,

signage, and monitoring of vegetation until the plants are established.

### **Pumping Plant Control System Rehabilitation**

Replacement of the motor control centers and the control systems at Sutter Bypass Pumping Plants Nos. 1 through 3 will be performed under a contract that began in December 2010 (Specification No. 10-09). The contractor will remove and dispose of the existing control structures and will furnish and install new control structures, switchgear, nonsegregated busses, relays, supervisory control and data acquisition systems, ground grids, and generators. Work is scheduled to be completed in 2014. Acceptance is expected in June 2014.

### **Replacements**

A contract (Specification No. 10-05) to replace the existing fish ladder structure and flow-control structures at Willow Slough in the Sutter Bypass began in June 2010. Work was completed in October 2013 and accepted in December 2013.

A project to replace Weir No. 2 in the East Borrow Canal in the Sutter Bypass began in April 2011 (Specification No. 10-08). The work includes a new weir structure and fish ladder approximately 100 feet downstream from the existing weir and a control building on the levee. Work is scheduled to be completed in 2014. Acceptance is expected in June 2014.

### **Knights Landing Outfall Gates**

A project to rehabilitate the structure and update the communications system for the operation of the Knights Landing Outfall gates began in January 2012 (Specification No. 11-13). The structure provides controlled drainage of flood and irrigation waters into the Sacramento River, controls irrigation levels within Colusa Drain and Knights Landing Ridge Cut, and acts as a barrier to

keep flood waters in the Sacramento River from entering the Colusa Drain and Ridge Cut. The structure's gate system required extensive maintenance. Consistent damage to the telephone line compromised control system reliability, and frequent malfunction of the debris boom damaged the boom's structure, causing debris to clog the gates or prevent gate closure. Work was completed in April 2013 and accepted in July 2013.

## **Real Estate Activities**

DWR processed a net total of \$2.76 million in payments in 2013 in support of right-of-way activities required for the construction, operation, and maintenance of the SWP. This amount represents direct payments made for the cost of real property rights, damages, temporary entry permits, licenses, leases, and relocation expenses.

DWR conducted the following real estate activities from January 1 through December 31, 2013.

### **SWP Acquisitions**

Activities related to acquisitions were as follows:

- executed seven agreements for the California Irrigation Management Information System program;
- issued 23 notices to property owners regarding planned activities to conduct global positioning system surveys and place and locate aerial targets used for mapping;
- negotiated the settlement agreement for the condemnation suit against Mentone Citrus for the acquisition of the Citrus Reservoir project site as part of the East Branch Extension Phase II project;
- coordinated the relocation of five Southern California Edison facilities in conflict with the East Branch Extension Phase II project and processed associated reimbursement payments;

- secured an encroachment permit extension from the California Department of Transportation to accommodate DWR's construction schedule for the San Joaquin Field Division Facility Modifications Project—Devil's Den Turnout Access Vault Project;
- executed a permanent nonexclusive access easement deed and a quitclaim deed with Wente Bros. for DWR Parcel No. DLV-121 to relinquish old access rights and establish new access rights on the access road constructed during the South Bay Aqueduct Improvement and Enlargement Project in Alameda County;
- acquired a permit from the San Francisco Public Utilities Commission allowing DWR to store sections of 84-inch pipe near Sunol in Alameda County for emergency purposes in case of a South Bay Aqueduct pipeline break;
- executed a license from property owner, Discovery Bay Yacht Harbor, LLC, allowing for the continued operation and maintenance of existing DWR monitoring station S21;
- secured an extension for an encroachment permit number from the City of Lathrop for water quality monitoring station S50 on the east piling of the Mossdale Bridge;
- received the title of policy insurance confirming DWR fee title for DWR Parcel No. D-SL-6 closing an existing gap in SWP operating right-of-way as part of the Byron Road Bridge Relocation Project;
- closed escrow on 64.24 acres of mitigation property in Riverside County known as DWR Parcel Number 3-6003 for the Lake Perris Dam Remediation Project mitigation;
- closed escrow to record an easement deed and quitclaim deed as part of the Agreement for the Exchange of State Right of Way and Replacement of Roads—Amendment No. 1 with Tejon Ranch for the Tejon Ranch Commerce Center Project;
- closed escrow on 243 acres of land in the Suisun Marsh (Parcel No. SML-144) for habitat restoration as part of the Fish Restoration Program;
- executed a license agreement with San Joaquin County for continued access, use, and maintenance of DWR monitoring station S31;
- executed a Reclamation license agreement to release fish at the fish release site known as "Emmaton Site" on Sherman Island Road in Sacramento County;
- processed one claim for damages to property and reimbursement of expenses and the submittals for payment;
- secured approval from Reclamation to perform environmental studies on property known as the Parkhurst Triangle as part of the Cantua Creek Stream Group Improvements Project;
- acquired a permanent pipeline easement for DWR Parcel No. D-SL-275 required for the Milepost 62 Pipeline Relocation Project in Merced County;
- executed a right-of-way contract for the temporary construction area for property known as DWR Parcel No. D-SL-276 for temporary ingress, egress, and storage of equipment required for the Milepost 62 Pipeline Relocation Project in Merced County;
- sent the required notice letters to the California Department of Conservation and Merced County Board of Supervisors informing them of DWR's acquisition of agricultural preserve land under the protection of the Williamson Act for the Milepost 62 Pipeline Relocation Project;
- processed the initial warrant request to pay an invoice received from Phillips 66 for work completed as part of the Milepost 62 Pipeline Relocation Project;
- secured an easement deed, right-of-way contract, and agreement for damages necessary to certify construction of planned improvements to the Curtis Landing fish release site, DWR Parcel

- Number WDWM-43, in Sacramento County;
- secured an encroachment permit from Reclamation District 341 to construct planned improvements to the Curtis Landing fish release site;
  - processed an invoice from Sacramento County to pay for inspection fees associated with an encroachment permit allowing DWR to construct a gate and pull box for electrical conduit in county right-of-way as part of the Curtis Landing fish release site;
  - executed an agreement for exchange of easements with Tejon Mountain Village, LLC describing the terms and conditions to quitclaim DWR Parcel No. TEH-1-C in exchange for a new nonexclusive access road easement known as DWR Parcel No. TEH-18 in Kern County;
  - executed an agreement allowing Contra Costa Water District to discharge water on portions of DWR property, known as DWR Parcel Nos. CF-07-03 and CF-07-02, in Contra Costa County as part of the Dutch Slough Tidal Marsh Restoration Project;
  - executed Lease Agreement No. 2 with Morrow Island Land Company for continued access, use, and maintenance of DWR monitoring stations SM-35 and SM-37 in Solano County;
  - processed an invoice to pay for continued access and maintenance of water quality monitoring station SM-49 in Solano County; and
  - secured a permit from the Sacramento-Yolo Port District to access the property on Prospect Island to install temporary hydrophone monitoring equipment in order to conduct biological surveys and fish monitoring activities in support of the Bay-Delta Office's 2014 Georgiana Slough Fish Barrier Project.

## Temporary Entry Permits

DWR obtained 101 temporary entry permits including:

- Arroyo Pasajero Phase II Project, 4;
- Doughty Cut Flow Monitoring Project, 7;
- East Branch Extension Phase II project, 1;
- Georgiana Slough nonphysical fish barrier, 7;
- North Bay Aqueduct Alternate Intake Project, 54;
- North Central Region Office—South Delta monitoring stations, 1;
- North Central Region Office—coordinated temporary entry permits, 5;
- Sacramento River channel improvements, 2;
- San Joaquin River Restoration Project, 11;
- South Delta Improvements Program—Temporary Barriers Project, 3;
- South Delta Improvements Program—water seepage monitoring stations, 3;
- South Delta ecosystem enhancement, 1;
- South Bay Aqueduct, Milepost 39 repairs, 1; and
- Walnut Grove water quality station, 1.

## SWP Property Management

Property management activities during 2013 were as follows:

- managed leasing activities of SWP nonoperating properties, which produced \$845,276;
- processed 17 encroachment permit applications and executed 19;
- collected fees of \$192,331 for review and inspection costs related to encroachment permit applications; and
- coordinated review of 16 tentative tract map developments within 1 mile of the California Aqueduct.

## SWP Appraisals

In calendar year 2013, 51 percent of total appraisal assignments (21 of 41) completed by DWR were exclusively for the SWP. These assignments included the following:

- Division of Flood Management, Winter Island Acquisition Feasibility Project—completed 4 appraisals;
- Division of Flood Management, Sacramento Bank Protection Project Cache Creek Levee Mile 3.4L—completed 2 supplemental memos;
- Bay Delta Office, the Curtis Landing fish release site acquisition project—completed 1 appraisal;
- Delta Habitat Conservation and Conveyance Program—completed 9 appraisals;
- SWP Property Management—completed 2 lease appraisals;
- Fish Restoration Program—completed 1 appraisal;
- Lake Perris Remediation Project—completed 1 appraisal; and
- Division of Flood Management, Sutter Maintenance Yard Acquisition Project—completed 1 appraisal.

**Table 12-1 Design Activities, January 1, 2013, through December 31, 2013, by Division**

| Division and Facility  | Design Activity   | Date Design Began | Design Actual/<br>Estimated Completion Date |
|--|---|-------------------|---|
| <b>Oroville Division</b>                                     |   |                   |   |
| Oroville and Thermalito dams                                 | Radial gate structural re-evaluation  | July 2011         | October 2014                                |
| <b>Delta Facilities</b>                                      |   |                   |   |
| Fish screens at Sherman and Twitchell islands                | New fish screens at existing siphons—10 sites   | September 2007    | June 2014                                   |
| <b>North Bay Aqueduct</b>                                    |   |                   |   |
| North Bay Aqueduct   | Alternate intake study  | October 2008      | June 2014                                   |
| <b>North San Joaquin Division</b>                            |   |                   |   |
| Clifton Court Forebay  | Radial gate repair  | July 2013         | July 2014                                   |
| <b>San Luis Division</b>                                     |   |                   |   |
| Sisk Dam   | Seismic re-evaluation study   | July 2007         | March 2013                                  |
| Los Banos Creek  | Detention dam—recoat outlet works piping  | November 2011     | April 2013                                  |
| <b>South San Joaquin Division</b>                            |   |                   |   |
| Edmonston, Chrisman, Teerink, and Buena Vista pumping plants | Replace septic tanks  | June 2012         | On hold                                     |
| San Joaquin Field Division                                   | Furnish and install annunciator panels  | February 2012     | March 2013                                  |
| San Joaquin Field Division                                   | Emergency generator replacement   | October 2012      | February 2014                               |
| San Joaquin Field Division                                   | Cathodic protection—insulated coupling vaults   | January 2012      | June 2013                                   |
| <b>East Branch Enlargement</b>                               |   |                   |   |
| East Branch Enlargement Phase II                             | Preliminary design and environmental documents  | March 2007        | 2014  |
| <b>Mojave Division</b>                                       |   |                   |   |
| San Joaquin Field Division                                   | Badger Hill pipeline repair   | March 2012        | July 2013                                   |
| <b>Santa Ana Division</b>                                    |   |                   |   |
| East Branch Extension Phase II                               | Furnish 5 kV switchgear   | July 2008         | October 2013                                |
| Perris Dam   | Embankment remediation  | January 2007      | March 2013                                  |
| Gorman Creek Improvement Channel                             | Emergency release extension   | October 2006      | September 2015                              |
| Antelope Valley-East Kern Water Agency Turnout               | Pipeline installation and channel repairs   | May 2011          | June 2013                                   |
| Antelope Valley-East Kern Water Agency Turnout               | Replacement design  | January 2010      | April 2013                                  |
| <b>West Branch</b>   |   |                   |   |
| Pyramid Dam  | Radial gate structural re-evaluation  | July 2011         | October 2014                                |
| <b>Miscellaneous</b>   |   |                   |   |
| Delta and San Luis field divisions                           | Seal and pave roads and parking areas   | October 2012      | March 2013                                  |
| State Water Project  | Copper communication cable and voice and data equipment monitoring, testing, and repair | January 2013      | November 2013                               |
| Los Robles Bridge (not part of seismic program)              | Seismic analysis  | August 2005       | February 2014                               |

**Table 12-2 Construction Activities, January 1, 2013, through December 31, 2013, by Division** Sheet 1 of 4

| Construction Division and Facility                                  | Construction Contract (Specification Number)                                    | Starting Date (Notice to Begin Work) | Acceptance Date (expected or actual) | Contract Costs (in thousands of dollars) |
|---|---|--------------------------------------|--------------------------------------|--|
| <b>State Water Project—General</b>                                  |   |                                      |                                      |  |
| State Water Project Supervisory Control and Data Acquisition System | Replace remote terminal units (08-12)   | May 2009                             | May 2015                             | 12,112                                   |
| <b>Oroville Division</b>  |   |                                      |                                      |  |
| Brad B. Freeman Bike Trail  | Realignment in the Lake Oroville State Recreation Area (13-03)                  | May 2013                             | March 2014                           | 473                                      |
| Robie Thermalito Pumping-Generating Plant                           | Cleanup and restoration Phase1—clean and repair fire-impacted equipment (13-16) | October 2013                         | January 2015                         | 1,218                                    |
| Oroville Operations and Maintenance Center                          | Build new garage shop and perform site work (11-03)                             | August 2011                          | March 2014                           | 1,427                                    |
| <b>South Bay Aqueduct</b>   |   |                                      |                                      |  |
| South Bay Aqueduct Enlargement and Improvement                      |   |                                      |                                      |  |
| Dyer Canal, Livermore Canal, Alameda Canal, and Del Valle Pipeline  | Perform canal modifications (09-16)   | October 2010                         | June 2014                            | 26,302                                   |
| Siphon and Check Structure Modifications                            | Furnish check structure equipment (08-21)                                       | January 2009                         | April 2014                           | 3,387                                    |
| Transmission Line and Modifications to Banks Switchyard             | Construct 69 kV transmission line and modify Banks Switchyard (09-06)           | October 2009                         | April 2014                           | 8,143                                    |
| South Bay Pumping Plant   | Furnish 45 cfs pump and motor units and one spare pump and motor (04-05)        | November 2004                        | June 2014                            | 7,370                                    |
|   | Furnish valves, actuators, and hydraulic power unit (04-20)                     | May 2005                             | June 2014                            | 2,258                                    |
|   | Furnish switchyard equipment (05-10)  | September 2005                       | February 2014                        | 1,303                                    |
|   | Furnish 5 kV switchgear (05-05)   | October 2005                         | June 2014                            | 3,608                                    |
|   | Construct pumping plant enlargement—initial facilities (06-04)                  | August 2006                          | June 2014                            | 16,704                                   |
|   | Furnish power transformers (07-02)  | April 2007                           | January 2013                         | 4,647                                    |
|   | Complete pumping plant enlargement (07-18)                                      | December 2007                        | June 2014                            | 22,401                                   |
| Surge Tanks   | Seismically retrofit Surge Tank Nos. 1 and 2 (11-11)                            | October 2011                         | February 2013                        | 4,503                                    |
| Del Valle Dam   | Bulkhead installation and removal (12-14)                                       | October 2012                         | January 2014                         | 76,658                                   |
| <b>North San Joaquin Division</b>                                   |   |                                      |                                      |  |
| Skinner Fish Science Building                                       | Delta Fish Survival Improvements Program (12-15)                                | December 2012                        | May 2014                             | 5,498                                    |
| Skinner Fish Facility   | Emergency radial gate repairs—remove, clean, and repair 3 stoplogs (13-15)      | July 2013                            | March 2014                           | 827                                      |

**Table 12-2 Construction Activities, January 1, 2013, through December 31, 2013, by Division**

Sheet 2 of 4

| Construction Division and Facility   | Construction Contract<br>(Specification Number)  | Starting Date<br>(Notice to<br>Begin Work) | Acceptance<br>Date (expected<br>or actual) | Contract<br>Costs (in<br>thousands<br>of dollars) |
|--|--|--|--|---|
| <b>San Luis Division</b>   |  |  |  |   |
| Dos Amigos Pumping Plant   | Replace trash rake system and trash racks (08-06)  | January 2009                               | February 2013                              | 3,396   |
| Gianelli Pumping-Generating Plant  | Replace heating, ventilation, and air-conditioning system (10-22)  | April 2011                                 | March 2013                                 | 574   |
| Chowchilla Canal Bypass Structure  | Radial gate modifications (12-17)  | September 2012                             | February 2013                              | 213   |
| Los Banos Creek Detention Dam Outlet Works Piping                                    | Recoat 525 feet of discharge pipe (13-04)  | July 2013                                  | October 2014                               | 889   |
| Delta and San Luis field divisions   | Seal and pave roads and parking areas (13-06)  | July 2013                                  | June 2014                                  | 7,732   |
| <b>Tehachapi Division</b>  |  |  |  |   |
| Edmonston Pumping Plant  | Replace pumps, Units W2, W4, W6, and W8 (02-10)  | June 2003                                  | November 2015                              | 35,000  |
|  | Furnish and deliver spare parts (11-02)  | June 2011                                  | June 2013                                  | 5,431   |
| Edmonston Pumping Plant, Teerink Pumping Plant, and control buildings, various sites | Roofing replacement (12-06)  | October 2012                               | July 2014                                  | 1,979   |
| Chrisman Pumping Plant and Devil's Den Pumping Plant                                 | Site improvements (12-12)  | December 2012                              | July 2014                                  | 4,359   |
| Gorman Creek Improvement Channel, south of Orin Way                                  | Pipeline installation and channel repairs (13-05)  | June 2013                                  | April 2014                                 | 2,554   |
| East Branch, Milepost 342.65   | Repair canal lining (13-10)  | July 2013                                  | May 2014                                   | 1,071   |
| Antelope Valley-East Kern Water Agency Turnout                                       | Construct turnout (13-11)  | August 2013                                | December 2014                              | 911   |
| <b>Mojave Division</b>   |  |  |  |   |
| California Aqueduct Reaches 18A and 22B  | Seal and pave roads and parking areas (10-03)  | July 2010                                  | January 2013                               | 3,149   |
| Cedar Springs Dam  | Replace conduits and perform miscellaneous work (10-06)  | March 2011                                 | January 2014                               | 929   |
| Pearblossom Pumping Plant  | Construct 20,000 square-foot Leadership in Energy and Environmental Design gold-rated administration building (10-23)                | February 2011                              | June 2014                                  | 13,586  |
| <b>Santa Ana Division</b>  |  |  |  |   |
| East Branch Extension Phase I Improvements   |  |  |  |   |
| Crafton Hills Reservoir Enlargement  | Increase operating storage of the reservoir (11-12)  | December 2011                              | December 2014                              | 8,377   |
| East Branch Extension Phase II   |  |  |  |   |
| Citrus Reservoir   | Construct new reservoir (12-02)  | June 2012                                  | October 2014                               | 19,654  |
| Mentone Pipeline   | Construct pipeline from Foothill Pump Station to Citrus Reservoir and from Citrus Pump Station to Crafton Hills Pump Station (12-03) | July 2012                                  | December 2014                              | 42,729  |

**Table 12-2 Construction Activities, January 1, 2013, through December 31, 2013, by Division** Sheet 3 of 4

| Construction Division and Facility                                 | Construction Contract (Specification Number)   | Starting Date (Notice to Begin Work) | Acceptance Date (expected or actual) | Contract Costs (in thousands of dollars) |
|--|--|--------------------------------------|--------------------------------------|--|
| Valves   | Manufacture, test, and deliver 3 energy dissipating valves for Citrus Reservoir (10-10)  | September 2010                       | June 2014                            | 700                                      |
|  | Manufacture, test, and deliver 14 ANSI butterfly valves for Citrus, Crafton Hills, and Cherry Valley pump stations (10-16)             | January 2011                         | June 2014                            | 1,320                                    |
|  | Manufacture, test, and deliver 12 AWWA butterfly valves for Crafton Hills and Cherry Valley pump stations and Mentone Pipeline (10-17) | February 2011                        | June 2014                            | 550                                      |
|  | Manufacture, test, and deliver 12 ANSI ball valves for Citrus, Crafton Hills, and Cherry Valley pump stations (10-18)                  | January 2011                         | June 2014                            | 3,300                                    |
| Transformers   | Manufacture, test, and deliver transformers and accessories for Citrus Pump Station (10-20)  | March 2011                           | August 2015                          | 793                                      |
| Santa Ana Pipeline   | Repair pipeline, Mileposts 422.5 and 425.3, under Warm Creek (12-11)   | September 2012                       | October 2013                         | 2,955                                    |
| Crafton Hills Pump Station and Citrus Pump Station                 | Pump station expansion and initial construction (12-10)  | October 2012                         | August 2014                          | 25,566                                   |
| Citrus, Crafton Hills, and Cherry Valley pump stations             | Furnish equipment and hardware—pumps, motors, variable frequency drives, excitation systems (13-01)                                    | June 2013                            | December 2015                        | 2,144                                    |
| <b>West Branch</b>   |  |                                      |                                      |  |
| West Branch (Reach 29G) General                                    | Construct road and embankment improvements (10-03 change order)  | July 2011                            | February 2013                        | 3,149                                    |
| Oso Pumping Plant  | Construct civil maintenance and mobile equipment building (07-22)  | December 2007                        | June 2014                            | 4,048                                    |
| <b>Multiple Divisions</b>  |  |                                      |                                      |  |
| Delta Facilities, Suisun Marsh Facilities, and California Aqueduct | Install and remove temporary rock barriers—2010 to 2012 (09-21)  | March 2010                           | October 2013                         | 19,530                                   |
| Temporary rock barriers, 2013, 2014, and 2015                      | Installation and removal at various Delta locations (12-18)  | January 2013                         | March 2016                           | 11,834                                   |
| Buena Vista Pumping Plant and Chrisman Pumping Plant               | Roofing repairs (10-19)  | October 2010                         | January 2013                         | 1,041                                    |
| San Joaquin and Southern field divisions                           | Seal and pave roads (12-08)  | August 2012                          | February 2014                        | 4,918                                    |
| Delta, San Luis, San Joaquin, and Southern field divisions         | Copper communications cable—voice and data equipment—monitoring, testing, and repair—California Aqueduct (12-04)                       | June 2012                            | March 2014                           | 953                                      |
| Edmonston, Chrisman, Teerink, and Buena Vista pumping plants       | Annunciator panels—replace panels and hardware (13-09)   | November 2013                        | March 2015                           | 815                                      |
| Devil's Den, Bluestone, and Polonio Pass pumping plants            | Cathodic protection rehabilitation—remove encasement at insulating coupling flanges/install new insulating sleeve couplings (13-13)    | September 2013                       | March 2014                           | 743                                      |
| Badger Hill Pipeline   | Repair pipeline (13-14)  | November 2013                        | June 2014                            | 3,325                                    |

**Table 12-2 Construction Activities, January 1, 2013, through December 31, 2013, by Division** Sheet 4 of 4

| Construction Division and Facility                                | Construction Contract<br>(Specification Number)   | Starting Date<br>(Notice to<br>Begin Work) | Acceptance<br>Date (expected<br>or actual) | Contract<br>Costs (in<br>thousands<br>of dollars) |
|---|---|--|--|---|
| <b>Miscellaneous Activities (Non-SWP)</b>                         |   |  |  |   |
| San Joaquin River Mile 71.5R                                      | Repair levee erosion and protect banks (11-06)  | September 2011                             | March 2014                                 | 3,571   |
| Sacramento River Miles 36.8L, 46.7L, and 56.6L                    | Levee erosion repair (12-09)  | August 2012                                | February 2013                              | 311   |
| North Levee Setback—Cache Creek Levee Miles 3.9 and 4.2           | Setback levee construction (13-02)  | July 2013                                  | May 2014                                   | 676   |
| North Channel Crossing—San Joaquin River Parkway, Sycamore Island | Crossing replacement (13-08)  | July 2013                                  | March 2014                                 | 170   |
| Sycamore Creek  | Restore habitat as a condition of permit for sediment removal project (10-14)   | October 2010                               | July 2014                                  | 428   |
| Sycamore Creek  | Sediment removal project (10-13)  | October 2010                               | July 2014                                  | 428   |
| Sutter Bypass   | Replace motor control centers and control system at Pumping Plant No. 1, Pumping Plant No. 2, and Pumping Plant No. 3 (10-09) | December 2010                              | June 2014                                  | 6,830   |
| Sutter Bypass, Willow Slough                                      | Replace existing fish ladder (10-05)  | June 2010                                  | December 2013                              | 3,340   |
| Sutter Bypass, East Borrow Canal                                  | Replace Weir No. 2 (10-08)  | April 2011                                 | June 2014                                  | 6,570   |
| Knights Landing Outfall Gates                                     | Replace gates, valves, seals, motor controls, and related apparatus (11-13)   | January 2012                               | July 2013                                  | 2,066   |





## Chapter 13

## Recreation

*Kiteboarding at Sherman Island.*



## Significant Events in 2013

In June 2013, the Department of Water Resources (DWR), along with the California Department of Parks and Recreation (California State Parks), the California Department of Forestry and Fire Protection (CAL FIRE), and the Department of Fish and Wildlife (DFW), hosted its first Catch A Special Thrill (C.A.S.T.) for Kids event in the Sacramento-San Joaquin Delta at Brannan Island State Recreation Area. Thirty-three children with special needs were treated to a day of fishing with tournament fishermen from around the area. This was DWR's first C.A.S.T. event that was not held at an SWP reservoir.

Relatively low water at Lake Oroville throughout 2013 impacted recreation attendance at several major reservoir-based facilities. Conversely, increases in attendance were measured by DWR's traffic counter network at sites not suffering diminished water levels (such as Thermalito Forebay and Afterbay and Oroville Wildlife Area).

DFW changed the black bass slot limit in the general State freshwater sport fishing regulations for Lake Oroville to 12 inches or longer. The change includes all black bass genera found at Lake Oroville, such as Alabama Spotted Bass, Redeye Bass, Largemouth Bass, and Smallmouth Bass.

*Information for this chapter was provided by the Division of Integrated Regional Water Management, Public Affairs Office, Division of Environmental Services, Oroville Field Division, and the State Water Project Analysis Office.*

The State Water Project (SWP) is a multipurpose project that provides recreational benefits to millions of Californians. In addition to providing water supply, flood control, and habitat for fish and wildlife, the SWP offers extensive and varied recreational opportunities—tours, sightseeing, fishing, hunting, picnicking, camping, boating, water skiing, bicycling, hiking, and swimming. Under the Davis-Dolwig Act (DDA), these recreational opportunities, as well as fish and wildlife enhancements, are not allocable as water and power costs to the SWP water contractors. They are financed by Department of Water Resources' (DWR) existing authorities under the Burns-Porter Act and appropriations from the Legislature specifically for these purposes.

## Recreation Areas

The SWP has 37 developed recreation areas, or sites, throughout California, including 18 developed fishing access sites. Figure 13-1 shows the name and location of each area.

## Recreation Use

Since the SWP began delivering water in 1962, nearly 235 million recreation days have been recorded at SWP recreation facilities. A recreation day is defined as one individual user visiting a recreation site along the SWP within all or part of a one-day period.

In 2013, most SWP recreation use was concentrated at the lakes and major reservoirs, with 37 percent occurring in the Oroville Field Division and 45 percent occurring in the Southern Field Division.

Two of the three visitors centers experienced an increase in visitation in 2013. Romero Overlook Visitors Center and Lake Oroville Visitors Center saw an increase in visitation, 5.6 percent and 17.6 percent respectively, while Vista del Lago Visitors Center saw a decrease of 37.2 percent. Vista del Lago may have experienced the significant drop in visitation due to a large highway construction project that changed the off-ramp configuration to the visitors center for several months in 2013.

Visitation at DWR's three SWP educational visitors centers totaled:

- 87,000 recreation days at Lake Oroville Visitors Center;
- 168,300 recreation days at Romero Overlook Visitors Center, San Luis Reservoir; and
- 104,900 recreation days at Vista del Lago Visitors Center, Pyramid Lake.

Overall, recreation usage of approximately 4.0 million recreation days at the SWP reservoirs listed in Table 13-1 contributed significantly to the total number of day-use visitors reported at the 280 units of the California State Park System.

## Facilities

### Planning

#### *Lake Oroville State Recreation Area*

In 2013, DWR and the California Department of Parks and Recreation (California State Parks) planned a number of future improvements to the facilities at Lake Oroville State Recreation Area.

Lake Oroville Marina and Bidwell Canyon Marina have continued to work with DWR and California State Parks on the Exposed Polystyrene Inspection and Replacement Program. Progress was made in the second year of the program, and it will be continued.



Figure 13-1 Names and Locations of SWP Recreation Areas

**Table 13-1 Estimated Recreation Days in 2013,  
by Field Division and Facility**

| Field Division and Facility   | Recreation Days<br>(rounded) |
|---|------------------------------|
| <b>Oroville Field Division</b>  |                              |
| Frenchman Lake  | 38,100 e                     |
| Antelope Lake   | 24,100 e                     |
| Lake Davis  | 25,900 e                     |
| Lake Oroville and Thermalito Forebay  | 772,700                      |
| Thermalito Afterbay and Oroville Wildlife Area  | 295,700                      |
| Feather River Fish Hatchery   | 209,800                      |
| Lake Oroville Visitors Center   | 87,000                       |
| <b>Subtotal</b>   | <b>1,453,300</b>             |
| <b>Delta Field Division</b>   |                              |
| Lake del Valle  | 411,500                      |
| Bethany Reservoir   | 4,400 e(1)                   |
| Fishing Access Site:  |                              |
| Niels Hansen  | 100 e(1)                     |
| California Aqueduct:  |                              |
| Walk-in Fishing   | 100 e(1)                     |
| Bikeway   | 100 e(1)                     |
| White Slough Wildlife Area  | 12,500 e(1)                  |
| <b>Subtotal</b>   | <b>428,700</b>               |
| <b>San Luis Field Division</b>  |                              |
| San Luis Reservoir SRA: San Luis Reservoir, O'Neill Forebay, and Los Banos Reservoir                    | 147,100                      |
| Romero Overlook Visitors Center   | 168,300                      |
| California Aqueduct:  |                              |
| Walk-in Fishing   | 2,300 e(2)                   |
| Wildlife Areas  | 1,500 e(2)                   |
| <b>Subtotal</b>   | <b>319,200</b>               |
| <b>San Joaquin Field Division</b>   |                              |
| Fishing Access Sites: Kettleman City, Lost Hills, Buttonwillow, and California Aqueduct Walk-in Fishing | 20,900 e(1)                  |
| <b>Subtotal</b>   | <b>20,900</b>                |
| <b>Southern Field Division</b>  |                              |
| Silverwood Lake   | 343,500                      |
| Lake Perris   | 668,700                      |
| Vista del Lago Visitors Center  | 104,900                      |
| Pyramid Lake  | 117,000                      |
| Castaic Lake and Castaic Lagoon   | 535,700                      |
| Fishing Access Sites:   |                              |
| Quail Lake  | 1,700 e(1)                   |
| 77th Street East  | 10 e(1)                      |
| Longview Road   | 200 e(1)                     |
| California Aqueduct:  |                              |
| Walk-in Fishing   | 2,400 e(1)                   |
| Bikeway   | 6,200 e(1)                   |
| <b>Subtotal</b>   | <b>1,780,310</b>             |
| <b>Total for Recreational Sites</b>   | <b>3,642,210</b>             |
| <b>Total for Visitors Centers</b>   | <b>360,200</b>               |
| <b>Grand Total</b>  | <b>4,002,410</b>             |

Note: These values are provided by facility operators, and numerous other sources, and vary in their degree of accuracy. Recreation days are based on counts except where marked "e," which are based on partial data: e(1) these locations are not regularly monitored and are visually monitored only. It is likely that these areas are used significantly more than what is represented here, but it is difficult to ascertain a realistic annual use; e(2) fishing access on or adjacent to the dams has been eliminated due to security concerns, resulting in a significant decrease in attendance in the general areas. Beginning in 2011, all locations within the Southern Field Division are being reported on a calendar-year basis.

California State Parks continues to work on a Kelly Ridge Fuel Break. The purpose of the project is to maintain the shaded fuel break on the wildland-urban interface of Kelly Ridge homeowners and Lake Oroville State Recreation Area. California State Parks based this project on the general guidelines for creating defensible space developed by the State Board of Forestry and Fire Protection. It is designed to reduce the chance that wildland fires on State land could spread to residential structures on adjacent private land. The work involves the removal and thinning of trees, shrubs, and grasses. Debris is cut up and piled for burning within cleared areas in the fuel break, or chipped and scattered as mulch. California State Parks will continue to maintain an approximately 100-foot-wide by 13,750-foot-long fuel break annually.

### **Lake del Valle State Recreation Area**

East Bay Regional Park District is preparing to replace a campground restroom with a new restroom building, funded partially by park entrance fees.

### **Silverwood Lake State Recreation Area**

California State Parks has three projects planned to improve accessibility for users with limited mobility. These plans concentrate on renovating the restrooms and facilities at Cleghorn, the marina, and Mesa Campground. There is also a limited mobility trail project in Cleghorn and plans to make improvements to Lot 3.

There are also plans to reopen the Miller Canyon Group camp.

### **New Facilities**

#### **Lake Oroville State Recreation Area**

California State Parks and DWR purchased a new sewage pump boat for lake operations.

Additionally, a trail access spur was constructed near the Thermalito Diversion

Pool to connect the newly relocated Brad B. Freeman Trail to the Dan Beebe Trail.

Completion of the extension of the North Fork Trail enabled the July opening of three new campsites for equestrian use in the Bloomer Area. These campsites are about 9.6 miles from the spillway parking lot and share a restroom with the Bloomer Group boat-in campsite. Each site consists of a corral with a feeder, a picnic table, a fire ring with a removable grate, and a 10-foot-square tent pad located higher than the corral.

A day-use area with ramadas was also upgraded at Lime Saddle Marina.

### ***Castaic Lake State Recreation Area***

The County of Los Angeles Department of Parks and Recreation completed a Lower Lagoon launch ramp extension project at Castaic Lake State Recreation Area. This project included adding a walkway from the parking lot to the restrooms and parking lot improvements. The walkway and parking lot improvements were designed and built for users with limited mobility, as were the previously built restrooms along the walkway.

## **Improvements to Facilities**

### ***Antelope Lake***

The California State Parks Division of Boating and Waterways, with the U.S. Forest Service, completed an upgrade to the Lost Creek Cove Boat Ramp. This included striping the parking lot and creating a picnic area for users with limited mobility.

### ***Frenchman Lake***

The California State Parks Division of Boating and Waterways, with the U.S. Forest Service, completed work on an existing boat ramp, which included construction of a trail near the dam designed for users with limited mobility. The construction also included

striping and modifying the boat ramp and its parking area.

### ***Lake Davis***

The California State Parks Division of Boating and Waterways, with the U.S. Forest Service, continued work on the Honker Cove Boat Ramp. This included new pavement, extending the ramp, and placement of woody habitat into the lake for aquatic species.

The U.S. Forest Service also hired a private contractor to improve the bike/walking trail around Lake Davis.

### ***Lake Oroville State Recreation Area***

The 41-mile-long Brad B. Freeman Bike Trail below Lake Oroville is safer because of a trail realignment project completed by California State Parks trail crews and a DWR contractor. A 3,300-foot-long trail segment that previously crossed Union Pacific Railroad tracks near the Thermalito Diversion Dam was rerouted closer to the Diversion Pool (away from Union Pacific Railroad property) and now crosses under the railroad bridge that spans the Diversion Pool. The project was conceived in 2004; however, final designs by DWR engineers required years of negotiations with Union Pacific Railroad. To enhance trail-user safety, the trail has fencing and overhead protection at the train trestle undercrossing. This project was completed in 2013.

DWR employees completed improvements to the Oroville Dam Upper Overlook, a project that began in 2012. The site was a popular “vista point” during construction of Oroville Dam and still provides a dramatic view of the dam, Lake Oroville, and the surrounding countryside. Upgrades to the overlook, located 50 feet above the dam at Canyon Drive and Royal Oaks Drive, include a new ramada, an old 165,000-pound impeller from the Hyatt Powerplant beneath Oroville Dam, interpretive signs, picnic tables, and landscaping. The project was partially

funded by a Land and Water Conservation Fund grant.

A stairway construction project was completed at Monument Hill. The new stairway connects the lower boat ramp parking lot to the upper parking lot and restroom facilities.

Prescribed burns were performed by the California Department of Forestry and Fire Protection (CAL FIRE) in the Loafer Creek Recreation Area as part of the Fuel Load Management Plan. Approximately 50 acres were treated.

California State Parks is replacing 22 failing light fixtures with energy efficient light fixtures at the Lime Saddle Marina parking lot. The previous fixtures used 480 watts; the upgrades are bi-level and will use between 70 and 130 watts. The 2-year project will be completed in 2014. Additionally, three shade ramadas at the Lime Saddle Day Use Area and Boat Launch have been replaced on the point overlooking the marina.

Concrete tables have been installed at the Bloomer Group boat-in campsite.

### ***Lake del Valle State Recreation Area***

Lake del Valle staff replaced partition walls in several restrooms throughout the campgrounds.

### ***San Luis Reservoir State Recreation Area***

Romero Overlook Visitors Center had some remodeling done in 2013; the bathrooms were completely remodeled, the outside walls were reinsulated, and some interior walls were moved to improve the interior space.

### ***Castaic Lake State Recreation Area***

Three picnic shade structures were replaced at Castaic Lake State Recreation Area.

### ***Lake Perris State Recreation Area***

In 2013, California State Parks performed the following improvements at Lake Perris State Recreation Area:

- three parking lots and several roads received slurry seals;
- a water intake pump, used for park irrigation, was overhauled; and
- three potable water tanks were repainted and recoated to bring them up to Cal/OSHA standards.

## **Recreation Activities**

The SWP, with its many reservoirs and hundreds of miles of aqueducts, offers Californians many recreational opportunities. From Antelope Lake in Northern California to Lake Perris in Southern California, the SWP includes facilities for anglers, boaters, campers, hikers, cyclists, and many others. While DWR manages the routing of water through the aqueducts and reservoirs, the recreational facilities are operated variously by federal, State, and local agencies and, in many cases, their private concessionaires. Visitors to these facilities can swim, water ski, picnic, and enjoy many other activities. See Figure 13-2 for the various types of recreation available along the SWP.

In June, DWR, along with California State Parks, CAL FIRE, and the Department of Fish and Wildlife (DFW) hosted its first Catch A Special Thrill (C.A.S.T.) for Kids event in the Sacramento-San Joaquin Delta at Brannan Island State Recreation Area. Thirty-three children with special needs were treated to a day of fishing with tournament fishermen from around the area. This was DWR's first C.A.S.T. event that was not held at an SWP reservoir.

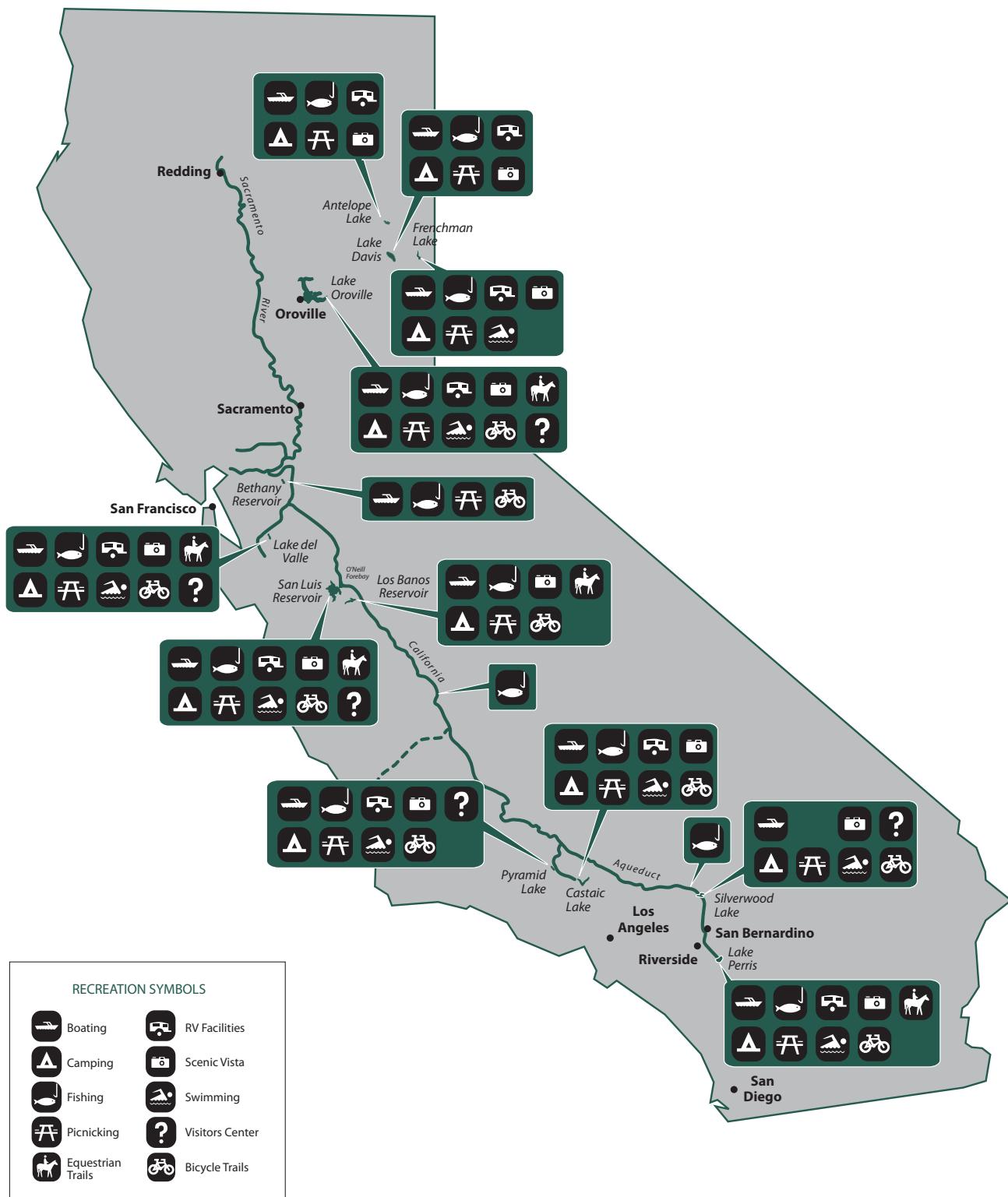


Figure 13-2 Types of Recreation along the SWP

## Lake Oroville State Recreation Area

DWR, California State Parks, and other agencies sponsored a number of activities at Lake Oroville State Recreation Area in 2013.

DWR co-hosted a Jack Splash Fit-N-Fun Day with the Oroville YMCA and the Feather River Rowing Club at the North Forebay Aquatic Center. Two-hundred-fifty children came to learn the value of exercise and healthy eating habits through various activities with staff.

DWR and California State Parks helped support, through a contract with the Oroville Chamber of Commerce, the annual Oroville Salmon Festival. This 1-day fall event was held at the Feather River Fish Hatchery, downtown Oroville, and the Feather River Nature Center, and was attended by an estimated 18,000 participants. About 600 visitors toured the Feather River Fish Hatchery during the event.

DWR co-hosted a 2-week Aquatic Adventure Camp program, with the Feather River Recreation and Parks District and the Chico Area Recreation District, for 36 local children. The children were educated in sailing, canoeing, sailboarding, proper use of safety equipment, water safety, and rescue techniques by North Forebay Aquatic Center staff.

Kiwanis hosted a "Hooked on Fishing, Not on Drugs" free kids' fishing day at Bedrock Park in the spring with support from DWR staff. More than 1,000 people attended the half-day event.

A Native Ways Celebration, attended by 500 visitors, was held by California State Parks at the Lake Oroville Visitors Center.

California State Parks hosted Bidwell Bar Days at Bidwell Canyon Day Use Area's historic Toll House. The event treats park visitors to a day in the life of the old west.

DWR staffed a booth to support Feather Fiesta Days. An estimated 12,000 visitors attended.

Mooretown Rancheria Cultural Camp was held at the North Forebay Recreation Area.

The annual 24 Hours of Gold Bicycle Race was held on the Lake Oroville Trail system and was based out of the Loafer Creek Campground.

California State Parks hosted Frontier Christmas at the Lake Oroville Visitors Center. Visitors learned how to make pioneer crafts and pan for gold.

DWR, California State Parks, and CAL FIRE hosted a C.A.S.T. for Kids fishing event for 34 children with special needs. The children were paired with experienced fishermen for a day of fishing on the lake. In addition, 185 volunteers helped make the event a success.

## Lake del Valle State Recreation Area

East Bay Regional Park District sponsored or co-sponsored the following activities in 2013:

- Coastal Cleanup 2013, where 28 volunteers cleaned up the lake shoreline contributing more than 84 hours and removing 402 pounds of trash and 28 pounds of recyclable materials;
- a Community Overnight Camping Program, which served 128 campers;
- a "Park'n It" Summer Day Camp Program, which served 175 children;
- with DWR and the Richmond Police Athletic League, an Aquatic Adventure Camp that served 30 children;
- two fishing programs, which served 20 participants;
- 24 campfire programs, which served a total of 3,507 attendees;

- 47 school programs, for 1,591 children; and
- 68 Regional in Nature (RIN) programs led by naturalists, serving 2,211 participants, and 59 non-RIN programs, which served 3,019 people.

In October 2013, DWR hosted a Take a Warrior Fishing event for 30 participants. This program supports military personnel and their families, with a focus on creating an adaptive, community-based outdoor recreation experience through the sport of fishing. Breakfast was provided by DWR's Delta Field Division.

### San Luis Reservoir State Recreation Area

DWR and its partners, including the Bureau of Reclamation, the San Joaquin River Exchange Contractors Water Authority, the San Luis & Delta-Mendota Water Authority, and California State Parks, hosted 21 special needs children at a C.A.S.T. for Kids fishing event at O'Neill Forebay at the San Luis Reservoir State Recreation Area. The children were treated to a day of fishing with the area's top Delta tournament fishermen.

### Castaic Lake State Recreation Area

The County of Los Angeles Department of Parks and Recreation sponsored the following activities at Castaic Lake State Recreation Area in 2013:

- two Junior Lifeguard Programs for 479 participants ages 9 to 17 who learned life guarding, first aid, CPR skills, and water safety;
- four Aquatic Adventure Camp sessions for 450 participants;
- five moonlight kayak classes with 94 participants, ages 8 and older, who learned about the environment at Castaic Lake, the SWP, water safety, and boating safety;

- "Splash in the Water" events with 477 children ages 7 to 14 who learned about water safety, kayaking, canoeing, standup paddleboarding, and sailing;
- one session of a FamCamp program for 37 participants to teach them about camping, leave-no-trace principles, water safety, and kayaking;
- 41 standup paddleboarding classes for a total of 466 participants every Saturday from May through October, with an average class size of 10 to 25 participants; and
- a C.A.S.T. for Kids fishing event for 37 children with special needs, which was co-hosted by DWR.

### Silverwood Lake State Recreation Area

In 2013, California State Parks sponsored the following activities at Silverwood Lake State Recreation Area:

- Bald Eagle Barge Tours on Saturdays and Sundays from January through March, where monthly eagle counts were taken;
- one Adopt-a-School program for 100 participants;
- a Coastal Cleanup Day with 15 volunteers who cleaned up the lake shoreline;
- the Third Annual Apple Festival, held near the Silverwood Historic Apple Orchard, which included apple picking, demonstrations of an antique apple press, and apple cooking and canning demonstrations. Live music, a barbecue lunch, a raffle, and a preview of exhibits at the Silverwood Lake State Recreation Area Nature Center were available to the 250 participants;
- Earth Day, with approximately 40 volunteers; and
- a C.A.S.T. for Kids fishing event, co-hosted by DWR, which paired 23 children with special needs with experienced fishermen for a day of fishing on Silverwood Lake.

## Lake Perris State Recreation Area

California State Parks sponsored the following activities at Lake Perris State Recreation Area in 2013:

- 12 Junior Ranger Programs, conducted by a State Park Interpreter, for participants ages 3 to 15;
- 12 campfire programs, with an audience of 20 to 65 attendees for each program;
- a 4-week Junior Lifeguard Program for 20 participants, ages 8 to 15, who learned about natural and cultural resources, first aid, CPR, and aquatic safety;
- four Bald Eagle counts;
- three sessions of Aquatic Adventure Camp, co-hosted by DWR, with more than 150 children learning basic first aid, CPR, how to manage basic aquatic emergencies, and swimming strokes, while enjoying a variety of aquatic recreation activities;
- a Holiday Boat Parade with 20 boats, which was enjoyed by 400 visitors;
- a Summer Enhancement Program, in cooperation with the San Bernardino Unified School District, which hosted 500 students and allowed them to visit the lake and participate in swimming, fishing, and outdoor education throughout the summer; and
- a C.A.S.T. for Kids fishing event, co-hosted by DWR and other agencies, which paired 50 children with special needs with experienced fishermen for a day of fishing on the lake.

## Oroville Recreation Plan

The Oroville Facilities, including Lake Oroville State Recreation Area, Oroville Wildlife Area, and adjacent DWR facilities, are operated in conformance with the 1993 Amended Recreation Plan that was approved by the Federal Energy Regulatory Commission (FERC) in its 1994 Order 2100-054. In 2006, DWR and its

Settlement Agreement signatories submitted a new Settlement Agreement Recreation Management Plan (SARMP, March 2006) for FERC approval. The approved SARMP will be implemented when the new hydropower license is issued by FERC, currently expected sometime in 2016 or later.

Additional need-based recreation improvements identified and proposed in the SARMP are anticipated to be constructed after the new FERC license is issued. The new license terms and conditions are expected to be consistent with the proposed SARMP. In the meantime, DWR and its Davis-Dolwig Act (DDA) collaborating partners, California State Parks, California State Parks' Division of Boating and Waterways, and DFW, will continue to operate Oroville Facilities' recreational installations consistent with the existing FERC license (renewed annually) and its associated 1993 Amended Recreation Plan.

## Fish Plantings

In 2013, DFW planted 600,300 fish in SWP reservoirs (see Table 13-2 for details). This was 27.4 percent less than the 826,700 fish planted in 2012. In 2011, DFW planted 761,200 fish; and 538,500 fish were planted in 2010. Over the last 3 years, DFW averaged 729,400 fish planted per year.

## SWP Deliveries for Recreation

DWR has an agreement with California State Parks to provide onshore recreation water at several SWP facilities in an amount prorated to the yearly SWP Table A allocation. Per the 35 percent SWP Table A allocation for 2013, maximum diversion amounts under the onshore recreation agreement were allocated at 35 percent, or a total of 2,375 acre-feet (af), as follows: 963 af at San Luis Reservoir; 140 af at Lake del Valle; 816 af at Castaic Lake and Castaic

**Table 13-2** Fish Planted by the Department of Fish and Wildlife in 2013 (thousands)<sup>a</sup>

| Location and Size                      | Eagle Lake Trout | Brook Trout | Rainbow Trout | Coho Salmon | Chinook Salmon | Steelhead Trout | Kokanee Salmon | Total for Lake |
|--|------------------|-------------|---------------|-------------|----------------|-----------------|----------------|----------------|
| <b>Antelope Lake</b>                   |                  |             |               |             |                |                 |                | 0.2            |
| Catchables                             |                  |             |               |             | 0.2            |                 |                |                |
| <b>Lake Davis</b>                      |                  |             |               |             |                |                 |                | 40.2           |
| Fingerlings                            |                  | 16.3        |               |             |                |                 |                |                |
| Catchables                             |                  |             |               | 23.9        |                |                 |                |                |
| <b>Frenchman Lake</b>                  |                  |             |               |             |                |                 |                | 155.7          |
| Fingerlings                            |                  | 155.7       |               |             |                |                 |                |                |
| <b>Lake Oroville</b>                   |                  |             |               |             |                |                 |                | 91.8           |
| Fingerlings                            |                  |             |               |             | 91.8           |                 |                |                |
| <b>Thermalito Forebay<sup>b</sup></b>  |                  |             |               |             |                |                 |                |                |
| <b>Thermalito Afterbay</b>             |                  |             |               |             |                |                 |                | 11.0           |
| Fingerlings                            |                  |             |               |             |                | 11.0            |                |                |
| <b>Lake del Valle</b>                  |                  |             |               |             |                |                 |                | 75.9           |
| Fingerlings                            |                  |             |               |             | 20.0           |                 | 20.0           |                |
| Catchables                             | 16.1             |             | 19.8          |             |                |                 |                |                |
| <b>Los Banos Reservoir<sup>b</sup></b> |                  |             |               |             |                |                 |                |                |
| <b>Pyramid Lake</b>                    |                  |             |               |             |                |                 |                | 17.7           |
| Catchables                             |                  |             | 7.0           |             |                |                 |                |                |
| Supercatchables                        |                  |             | 10.7          |             |                |                 |                |                |
| <b>Castaic Lake</b>                    |                  |             |               |             |                |                 |                | 78.6           |
| Catchables                             |                  |             | 78.6          |             |                |                 |                |                |
| <b>Castaic Lagoon<sup>b</sup></b>      |                  |             |               |             |                |                 |                |                |
| <b>Silverwood Lake</b>                 |                  |             |               |             |                |                 |                | 30.0           |
| Catchables                             |                  |             | 9.7           |             |                |                 |                |                |
| Trophy                                 |                  |             | 20.3          |             |                |                 |                |                |
| <b>Lake Perris</b>                     |                  |             |               |             |                |                 |                | 99.2           |
| Catchables                             |                  |             | 99.2          |             |                |                 |                |                |
| <b>Total</b>                           | <b>188.1</b>     | <b>0.0</b>  | <b>269.4</b>  | <b>0.0</b>  | <b>111.8</b>   | <b>10.3</b>     | <b>20.0</b>    | <b>600.3</b>   |

<sup>a</sup> Information provided by DFW, using the following size classes: fingerlings = 16.1 or more fish per pound; sub-catchables = 6.1 to 16 fish per pound; catchables = 1 to 6 fish per pound; super-catchables = 0.99 to 0.34 fish per pound; and trophy = fewer than 0.32 fish per pound.

<sup>b</sup> No fish planted in 2013. Thermalito Forebay was last planted with fish in 2008 and Castaic Lagoon in 2010. They were removed from DFW's list of approved waters due to an environmental impact report and analysis of potential effects of fish stocking on other listed endangered species.

Lagoon; 438 af at Lake Perris; and 18 af at Bethany Reservoir. Actual deliveries under the agreement totaled 751 af as follows: 5 af at San Luis Reservoir; 137 af at Lake del Valle; 196 af at Castaic Lake; 230 af at Lake Perris; 0 af at Bethany Reservoir; and deliveries to California State Parks of 85 af at Silverwood Lake and 98 af at Pyramid Lake.

Details about these deliveries are provided in Chapter 9, Water Contracts and Deliveries.

## Recreation Financing

Prior to 2001, DWR reported capital costs allocated to fish and wildlife enhancement and recreation in Bulletin 132, Appendix D,

*Costs of Recreation and Fish and Wildlife Enhancement* (RFWE). This report is no longer mandated by the Legislature. DWR initially began reporting recreation capital cost information in this bulletin for fiscal year 2000–2001.

The approach to financing RFWE in connection with the SWP is provided in the DDA (California Water Code [CWC] Sections 11900–11925, 1961) and the Burns–Porter Act (CWC Section 12937, 1959). Additionally, as early as 1953, financing for RFWE was addressed in CWC Sections 233, 345, 346, 12581, and 12582. These statutes declare that recreation at the SWP is a benefit to all the people of California and that the associated costs should be borne by all Californians. While this intent is cited in the DDA, no specific appropriation or funding source was defined. Consequently, Assembly Bill (AB) 12 in 1966, Senate Bill (SB) 1268 in 1970, and the Environmental Water Act, AB 1441 and AB 1442 in 1989, were all enacted to provide the necessary State funding for this SWP purpose. The DDA does, however, explicitly preclude DWR from including RFWE costs in the SWP charges for water and power billed to the public water agencies contracting for SWP water supply.

The Legislature has intermittently appropriated monies to meet State obligations to fund RFWE at the SWP. AB 12 appropriated \$5 million per year to DWR from \$90 million in tidelands oil and gas revenues. By the early 1980s, DWR had expended the entire \$90 million toward funding SWP RFWE obligations. SB 1268 appropriated \$55 million to California State Parks and \$5 million to DFW specifically for their responsibilities under the DDA at SWP facilities. Finally, AB 1442 appropriated \$172 million to reimburse DWR for SWP RFWE costs incurred over the previous 12 years as an offset to DWR's California Water Fund repayment, and an additional \$30 million for SWP RFWE through 1994.

In the fiscal year 2012–2013 State budget, passed by the Legislature and effective July 1, 2012, the DDA was amended to continuously appropriate \$10 million per year to DWR. The funding was sourced from the Harbors and Watercraft Revolving Fund that is funded by fuel taxes at marinas statewide; this continuous SWP RFWE funding is essentially a user-funded source. Of the \$10 million, \$2.5 million per year is for past unreimbursed SWP RFWE costs incurred by DWR through December 31, 2011, and the remaining \$7.5 million per year is primarily intended to fund DWR's ongoing annual joint SWP RFWE costs that are generated through DWR's statutory mandate to allocate SWP costs to their respective purposes, including RFWE. These joint costs are those for facilities such as dams, which were constructed to provide multiple benefits such as flood control, water supply, power generation, and RFWE. The dam, however, cannot be physically separated into discrete elements for cost-sharing purposes, so DWR, by statute, must determine and allocate shares of such facilities to all of the respective purposes. Moreover, and by law (the DDA), the SWP RFWE purpose costs cannot be included in charges for water and power to SWP customers, so the 2012 DDA amendment filled a long-standing shortfall in SWP RFWE funding and will help ensure the great benefit provided to all Californians in the form of 4 million or more visitors per year to SWP facilities with water-focused recreation and sport-fishing opportunities.

The 2012 DDA amendment was the result of several years of close, cooperative solution development that involved the Natural Resources Agency Secretary's Office, the Department of Finance, the Legislative Analyst's Office, legislative staff, DWR, and many of DWR's long-term SWP water supply contracting public water agencies.

Another part of the cooperative solution to the long-standing DDA funding difficulties was concurrence from DWR to reexamine

the joint RFWE allocation for SWP transportation facilities located south of Dos Amigos Pumping Plant. DWR did so, and commencing on January 1, 2013, made revisions to the RFWE allocations described in Table 2 of Appendix B (located at the end of this bulletin).

## **Capital Cost Allocations**

Table 13-3 shows capital costs allocated to RFWE and overall costs of lands acquired for recreation development through 2013. Total capital costs increased by \$4,633,004 since Bulletin 132-13 due to an increase of \$3,724,845 in 2013 and an upward adjustment of \$908,159 in years prior to 2013. The increase in 2013 included \$3,711,774 in joint costs and \$13,071 in specific costs. These costs are budgeted by DWR from funds available for financing project construction costs. Recreation and enhancement costs not reported in this table are budgeted by several State departments and are financed by appropriations from a variety of funds.

**Table 13-3 Recreation and Enhancement Capital Costs of the State Water Project (in dollars)**

| Facility   | Joint Costs Allocated to Recreation and Enhancement |                  |                    | Specific Costs Allocated to Recreation and Enhancement |               |                   | TOTAL              |
|--|---|------------------|--------------------|--|---------------|-------------------|--------------------|
|  | 1952-2012 Updated                                   | 2013             | Subtotal           | 1952-2012 Updated                                      | 2013          | Subtotal          |                    |
| Frenchman Dam and Lake (78.5%) <sup>a</sup>  |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 102,997   | 0                | 102,997            | 0  | 3,379         | 0                 | 106,376            |
| All Other Funds  | 2,719,877   | 4                | 2,719,881          | 0  | 49,950        | 0                 | 2,769,831          |
| Antelope Dam and Lake (100%) <sup>a</sup>  |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 1,033,261   | 0                | 1,033,261          | 0  | 3,167         | 0                 | 1,036,428          |
| All Other Funds  | 4,625,993   | 7                | 4,626,000          | 0  | 201,137       | 0                 | 4,827,137          |
| Grizzly Valley Dam and Lake Davis (99.0%) <sup>a</sup>                                 |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 4,003,092   | 0                | 4,003,092          | 0  | 204,475       | 0                 | 4,207,567          |
| All Other Funds  | 4,110,157   | 7                | 4,110,164          | 0  | 554,246       | 0                 | 4,664,410          |
| Other Feather River Projects (100%) <sup>a</sup>                                       |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 0   | 0                | 0                  | 0  | 0             | 9                 | 9                  |
| All Other Funds  | 746,161   | 1                | 746,162            | 0  | 9,921         | 0                 | 756,083            |
| Delta Facilities (3.4%) <sup>a</sup>   |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 0   | 0                | 0                  | 0  | 0             | 0                 | 0                  |
| All Other Funds  | 13,626,647  | 89,589           | 13,716,236         | 0  | 0             | 0                 | 13,716,236         |
| San Luis Dam and Reservoir O'Neill Forebay and Los Banos Reservoir (3.4%) <sup>a</sup> |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 988,910   | 0                | 988,910            | 395,284  | 0             | 395,284           | 1,384,194          |
| All Other Funds  | 4,027,901   | 11,252           | 4,039,153          | 867,243  | 0             | 867,243           | 4,906,396          |
| California Aqueduct Delta to Dos Amigos P.P. (3.4%) <sup>a</sup>                       |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 4,467,667   | 0                | 4,467,667          | 422,681  | 0             | 422,681           | 4,890,348          |
| All Other Funds  | 4,930,844   | 370,066          | 5,300,910          | -91,879  | 0             | -91,879           | 5,209,031          |
| Oroville Division (2.9%) <sup>a</sup>  |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 5,725,216   | 0                | 5,725,216          | 7,809,509  | 0             | 7,809,509         | 13,534,725         |
| All Other Funds  | 6,262,127   | 148,130          | 6,410,257          | 6,020,505  | 936           | 6,021,441         | 12,431,698         |
| DelValle Dam and Lake DelValle (48.0%) <sup>a</sup>                                    |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 10,546,762  | 0                | 10,546,762         | 519,425  | 0             | 519,425           | 11,066,187         |
| All Other Funds  | 4,292,394   | 85,882           | 4,378,276          | -32,202  | 0             | -32,202           | 4,346,074          |
| California Aqueduct Dos Amigos P.P. to Termini (0.4%–32.3%) <sup>a,b</sup>             |   |                  |                    |  |               |                   |                    |
| California Water Resources Development Bond Fund                                       | 48,382,162  | 0                | 48,382,162         | 3,880,547  | 0             | 3,880,547         | 52,262,709         |
| All Other Funds  | 93,282,871  | 3,006,836        | 96,289,707         | 6,680,580  | 12,135        | 6,692,715         | 102,982,422        |
| <b>Total</b>   | <b>213,875,039</b>                                  | <b>3,711,774</b> | <b>217,586,813</b> | <b>27,497,977</b>                                      | <b>13,071</b> | <b>27,511,048</b> | <b>245,097,861</b> |

<sup>a</sup> Percentages are the share of joint costs.

<sup>b</sup> Specific costs for Dos Amigos to Termini include \$2,905,649 for Castaic Dam and Lake, \$795,130 for Cedar Springs Dam and Silverwood Lake, and \$5,974,424 for Perris Dam and Lake Perris.





## Chapter 14

## Financial Analysis

*Dos Amigos Pumping Plant lifts water 113 feet from the California Aqueduct as it flows south from O'Neill Forebay.*

## Significant Events in 2013

**O**n March 5, the Department of Water Resources (DWR) delivered \$183.960 million of Water System Revenue Bonds, series AM. The proceeds were presold on February 28, 2012, to refinance previously sold bonds and pay bond financing costs.

On March 26, DWR delivered \$45.340 million of Water System Revenue Bonds, series AP. The proceeds were presold on March 12 to refinance commercial paper and to pay bond financing costs.

On June 18, DWR delivered \$120.205 million of Water System Revenue Bonds series AQ. The proceeds were presold on May 21 to refinance commercial paper, finance long-term construction expenditures, and pay bond financing costs.

*Information for this chapter was provided by the State Water Project Analysis Office in conjunction with the Division of Fiscal Services.*

This chapter presents both a summary and a detailed explanation of the State Water Project's (SWP) current financial analysis, capital costs and requirements, revenues and expenses, and bond activities for years 2013 through 2023.

The Department of Water Resources (DWR) performs a financial analysis annually to ensure the SWP financing program will have sufficient funds to meet construction obligations; project operation, maintenance, power, and replacement costs; and debt service payments for bonds expended for construction. The results of the current financial analysis, dated December 31, 2013, are presented in Tables 14-1 and 14-2, located at the end of this chapter. (Please note that, in some instances, the tables and text figures in this chapter may not sum due to rounding.)

Future contingencies may change the financial analysis, some of which include:

- alterations in schedules of currently planned construction for future facilities;
- changes in economic conditions, including changes in interest rates and in SWP water contractor Table A amounts due to changes in amounts of water needed, conserved, or reclaimed;
- development of additional sources of water not foreseen at this time;
- deviations from the assumptions regarding actual rates of price escalations for future construction from those currently assumed for cost estimates;
- increases in capital costs related to additional conservation facilities; and
- outcome of lawsuits now pending before the courts.

## Capital Requirements and Financing

In conducting the current financial analysis, DWR projected future construction costs through the year 2023 plus reimbursement of \$249 million interim financing for prior expenditures will total \$1.81 billion. Special capital requirements for revenue bond financing of these construction costs are projected at \$193 million for a total capital requirement of \$2.0 billion. This projection includes construction and financing costs for the following significant SWP projects planned for completion by 2023:

- Perris Dam remediation;
- Phase II enlargement of the East Branch of the California Aqueduct;
- Phase I improvements to the East Branch Extension;
- Phase II of the East Branch Extension;
- enlargement of and improvement to the South Bay Aqueduct (SBA); and
- a new intake to the North Bay Aqueduct.

Most of these capital requirements will be financed from the projected sale of \$1.96 billion of revenue bonds. The remaining \$45 million will be financed from capital resources revenues and the transfer of excess revenues not needed for operation costs or debt service.

The analysis of capital requirements and financing presented in Table 14-1 does not include the costs and financing of all facilities needed to develop the remaining yield necessary to meet the

total 4.2 million acre-foot contractual commitment to long-term SWP water contractors. Table 14-1 also does not include the costs of associated work essential for realizing full benefits from the SWP, but financed and constructed by local interests or State agencies other than DWR. Those facilities include on-shore recreational developments at SWP facilities and local distribution facilities.

The allocation of capital expenditures for various SWP purposes is detailed in Table 14-3.

## Capital Requirements

Lines 1 through 20 in Table 14-1 show actual and projected SWP capital requirements through 2023. Estimates of future capital expenditures include allowances for construction cost escalation of 5 percent per year from 2014 through 2023. Right-of-way costs are escalated at 4 percent per year from 2014 through 2023. Capital expenditures for the SWP also include requirements other than those for construction, such as disbursements made as part of the Davis-Grunsky Act Program (Line 16) and special capital requirements under revenue bond financing (Line 17). DWR will decide whether to construct facilities only after examining alternatives and completing environmental documentation and other review processes.

*Line 1, Initial Project Facilities*, includes only those facilities completed in the initial construction program, which concluded December 31, 1973 (see Bulletin 132-74, Chapter 2). Additional costs after 1973, and estimated costs of remaining work on the initial SWP facilities, are not included.

*Line 2, North Bay Aqueduct*, consists of the estimated costs for improvements and the historical costs for Phase II. Operational in May 1988, Phase II connected with the Phase I facilities, which were completed in 1968 (Phase I costs are included in the initial

project facilities discussed in Line 1). Phase II included costs for pipelines, pumping plants, and a small reservoir necessary to divert water from the western Delta to Napa and Solano counties for urban use. The improvements consist of replacing the existing tank with two 5-million gallon tanks. Construction of the new tanks began in 2007 and was completed in 2010.

*Line 3, Delta and Suisun Marsh Facilities*, shows historical costs that include planning for general Delta facilities and the previously planned peripheral canal and overland water delivery facilities for the western Delta. Also included are historical planning costs for Suisun Marsh as well as construction costs for the Suisun Marsh Salinity Control Gates and an access road. The projected amounts include projected planning costs plus projected costs for fish screens at Sherman and Twitchell islands.

*Line 4, Final Four Units at Banks Pumping Plant*, includes costs of the final four 1,067 cubic feet per second units, which became operational in spring 1992.

*Line 5, Coastal Branch Aqueduct*, includes all costs for the planning, design, and construction of Phase II of the Coastal Branch of the California Aqueduct. Phase II construction began in October 1993 and was completed in 1997. Water deliveries from Phase II facilities began in July 1997.

*Line 6, West Branch Aqueduct*, shows costs for all facilities on the West Branch except Warne Powerplant. Those costs are included in Line 11.

*Line 7, East Branch Enlargement*, includes expenditures for Phases I and II of the East Branch Enlargement. Phase I included the enlargement share of power plant costs at Mojave Siphon and Devil Canyon. (The remaining power plant costs are included in Line 11.) East Branch Enlargement costs

**Table 14-3 Allocation of Capital Expenditures (in thousands of dollars)**

| Facilities and Construction Divisions       | Expenditures Incurred Through 2013 | Future Expenditures | Total            | Preliminary Allocation Among Project Purposes |                            |  |                    |
|---|------------------------------------|---------------------|------------------|---|----------------------------|--|--------------------|
|   |                                    |                     |                  | Water Supply and Power Generation             | Flood Control <sup>a</sup> | Recreation and Fish and Wildlife Enhancement | Other <sup>b</sup> |
| <b>Project Construction Expenditures</b>    |                                    |                     |                  |   |                            |  |                    |
| Upper Feather Division                      | 19,926                             | -                   | 19,926           | 1,558   | 0                          | 18,368                                       | 0                  |
| Oroville Division (excludes Small Hydro)    | 737,196                            | 113,894             | 851,090          | 753,420                                       | 71,688                     | 25,982                                       | 0                  |
| Delta Facilities Division                   | 434,047                            | 153,880             | 587,927          | 564,882                                       | 0                          | 23,045                                       | 0                  |
| North Bay Aqueduct                          | 110,645                            | 468,063             | 578,708          | 578,708                                       | 0                          | 0  | 0                  |
| South Bay Aqueduct                          | 388,013                            | 12,332              | 400,345          | 376,639                                       | 8,293                      | 15,412                                       | 0                  |
| California Aqueduct                         |                                    |                     |                  |   |                            |  |                    |
| North San Joaquin Division                  | 290,142                            | 24,206              | 314,348          | 303,433                                       | 0                          | 10,915                                       | 0                  |
| San Luis Division                           | 309,343                            | 11,282              | 320,625          | 306,638                                       | 0                          | 13,987                                       | 0                  |
| South San Joaquin Division                  | 336,487                            | 12,096              | 348,583          | 330,868                                       | 0                          | 17,714                                       | 0                  |
| Tehachapi Division                          | 370,657                            | 14,491              | 385,149          | 364,353                                       | 0                          | 20,796                                       | 0                  |
| Mojave Division (excludes Small Hydro)      | 367,454                            | 8,955               | 376,409          | 336,445                                       | 0                          | 39,964                                       | 0                  |
| Santa Ana Division                          | 312,429                            | 135,908             | 448,337          | 368,529                                       | 0                          | 79,808                                       | 0                  |
| West Branch                                 | 559,630                            | 10,020              | 569,650          | 536,784                                       | 0                          | 32,866                                       | 0                  |
| Coastal Branch                              | 494,544                            | 10,002              | 504,546          | 504,546                                       | 0                          | 0  | 0                  |
| Subtotal, California Aqueduct               | 3,040,686                          | 226,960             | 3,267,647        | 3,051,597                                     | 0                          | 216,050                                      | 0                  |
| Other Project Facilities                    |                                    |                     |                  |   |                            |  |                    |
| Small Hydroelectric Power                   |                                    |                     |                  |   |                            |  |                    |
| Generating Facilities                       | 99,938                             | 0                   | 99,938           | 99,938  | 0                          | 0  | 0                  |
| Off-Aqueduct Power                          |                                    |                     |                  |   |                            |  |                    |
| Generating Facilities                       | 491,574                            | 0                   | 491,574          | 491,574                                       | 0                          | 0  | 0                  |
| East Branch Enlargement                     | 461,828                            | 0                   | 461,828          | 461,828                                       | 0                          | 0  | 0                  |
| East Branch Extension                       | 262,478                            | 110,907             | 373,385          | 373,385                                       | 0                          | 0  | 0                  |
| Coastal Power Allocation                    | 30,708                             | 0                   | 30,708           | 30,708  | 0                          | 0  | 0                  |
| Agricultural Drainage Facilities            | 83,501                             | 17,620              | 101,121          | 0   | 0                          | 0  | 101,121            |
| Planning and Pre-operations                 | 70,898                             | 30,640              | 101,538          | 101,538                                       | 0                          | 0  | 0                  |
| Unassigned/Miscellaneous                    | 128,285                            | 430,110             | 558,395          | 0   | 0                          | 0  | 558,395            |
| Subtotal, Project Construction Expenditures | 6,359,725                          | 1,564,404           | 7,924,129        | 6,885,775                                     | 79,981                     | 298,857                                      | 659,516            |
| <b>Other Capital Requirements</b>           |                                    |                     |                  |   |                            |  |                    |
| Davis-Grunsky Act Program                   | 130,000                            | 0                   | 130,000          | 0   | 0                          | 0  | 130,000            |
| <b>Total Capital Expenditures</b>           | <b>6,489,725</b>                   | <b>1,564,404</b>    | <b>8,054,129</b> | <b>6,885,775</b>                              | <b>79,981</b>              | <b>298,857</b>                               | <b>789,516</b>     |

<sup>a</sup>Reflects DWR's allocation to this purpose, irrespective of federal payments.<sup>b</sup>Includes costs currently unassigned to purpose, planning costs of deleted features of project facilities, initial costs of inventoried items, and costs assigned to the Davis-Grunsky Act Program.

for Phase I, by facility, are presented in Table 14-4. Costs for Alamo Powerplant consist of expenditures for Unit 1 facilities allocated to enlargement. Construction of Unit 2 was deferred.

Work on the draft environmental impact report, mapping, and conceptual design for Phase II of the enlargement began in March 2007 and ceased in 2013 at the request of the participating contractors. Construction has been postponed indefinitely. Project costs include raising the canal embankment and concrete lining, constructing additional siphon barrels, adding bays to check structures, constructing Unit 2 at Alamo Powerplant, and adding two pump/motor units and a discharge line at Pearblossom Pumping Plant.

All costs in Line 7 are allocated to and repaid by the seven Southern California contractors participating in the East Branch Enlargement.

*Line 8, East Branch Improvements*, shows all aqueduct costs on the East Branch not allocated to the enlargement project. Those costs include improvements constructed concurrently with the enlargement work, the reconstruction of the San Bernardino Tunnel Intake, and the construction of the Tehachapi East Afterbay. Costs for power plant construction at Alamo, Mojave Siphon, and Devil Canyon are not included in this line.

*Line 9, East Branch Extension*, shows expenditures for Phases I and II of the extension of the East Branch of the California Aqueduct. The East Branch Extension extends the California Aqueduct east from the Devil Canyon Powerplant to a terminus at Noble Creek near Beaumont in Riverside County. The extension provides water service to the San Gorgonio Pass Water Agency and the San Bernardino Valley Municipal Water District. Construction of Phase I began in February 1999 and was completed in 2003. Phase I improvements include enlargement of the Crafton Hills

Reservoir and construction of the Yucaipa Connector Pipeline. Construction of this phase is scheduled to be completed in 2014. Phase II will increase the pumping capacity to 100 percent of design capacity. Construction of Phase II began in 2012 and is scheduled to be completed in 2015. All costs in Line 9 will be allocated to and repaid by the two participating contractors.

*Line 10, South Bay Aqueduct Improvements and Enlargement*, shows expenditures for providing additional capacity required to meet increases in water demands for the service area of Alameda County Flood Control and Water Conservation District, Zone 7, and increasing the existing capacity of the SBA to its original design capacity. Construction began in 2006 and is scheduled to be completed in 2014.

*Line 11, Power Generation and Transmission Facilities*, does not include the East Branch Enlargement share of costs for Alamo, Mojave Siphon, and Devil Canyon powerplants shown in Line 7 of Table 14-1. The capital costs for facilities included in Line 11 are shown in Table 14-5.

*Line 12, Additional Conservation Facilities*, shows projected costs to plan and study additional conservation facilities. Specific planning activities and projected spending amounts for 2014 through 2023 are shown in Table 14-6. Expenditures for these items are being reviewed. Construction costs of additional conservation facilities are not included in the financial analysis.

Line 12 does not include the Bay Delta Conservation Plan costs. DWR's share of the Bay Delta Conservation Plan expenditures for preliminary planning and environmental impact report preparation are currently financed by participating contractors.

*Line 13, Agricultural Drainage Facilities*, includes projected costs of the Agricultural Drainage Program. The activities in this

**Table 14-4 East Branch Enlargement Capital Costs by Facility**

| Facility                                    | Amount<br>(in millions of dollars) |
|---|------------------------------------|
| Aqueduct and Siphons                        | 128.1                              |
| Pearblossom Pumping Plant                   | 70.1                               |
| Alamo Powerplant                            | 5.0                                |
| Mojave Siphon Powerplant                    | 47.3                               |
| Devil Canyon Powerplant and Second Afterbay | 202.9                              |
| <b>Total</b>                                | <b>453.4</b>                       |

**Table 14-5 Estimated Capital Costs for Power Generation and Transmission Facilities**

| Power Plants and Transmission Lines | Amount<br>(in millions of dollars) |
|-------------------------------------|------------------------------------|
| <b>Power Plants</b>                 |                                    |
| Reid Gardner, Unit 4                | 314.2                              |
| Bottle Rock                         | 120.9                              |
| South Geysers                       | 49.6                               |
| Devil Canyon                        | 36.8                               |
| Warne                               | 84.5                               |
| Alamo                               | 44.9                               |
| Mojave Siphon                       | 40.9                               |
| Hyatt                               | 27.9                               |
| Thermalito                          | 77.4                               |
| <i>Subtotal</i>                     | 797.1                              |
| <b>Transmission Lines</b>           |                                    |
| Midway–Wheeler Ridge                | 10.7                               |
| Geysers–Lakeville                   | 6.9                                |
| <i>Subtotal</i>                     | 17.6                               |
| <b>Total</b>                        | <b>814.7</b>                       |

**Table 14-6 Estimated Future Costs for Planning Additional Conservation Facilities**

| Activity                | Amount<br>(in millions of dollars) |
|-------------------------|------------------------------------|
| SWP Future Water Supply | 30.6                               |
| Other Planning Costs    | 0.0                                |
| <b>Total</b>            | <b>30.6</b>                        |

program are monitoring, evaluating, reducing, and treating drainage, as well as investigating treatment and reuse of drainage water.

DWR assumes that future costs of the drainage program will be financed by revenue transfers (Line 36).

*Line 14, Other Costs*, includes items such as general design and construction costs, costs of completing operation and maintenance facilities, and costs of other completion activities for the initial facilities of the California Aqueduct. Portions of those costs ultimately will be allocated to California Aqueduct units described in the preceding paragraphs.

*Line 15, Subtotal Project Construction Expenditures*, is the total of Lines 1 through 14.

*Line 16, Davis-Grunsky Act Program Costs*, shows costs of the Davis-Grunsky Act Program, a financial assistance program to provide grants and loans to public agencies for constructing local water projects.

As of December 31, 2013, DWR had disbursed \$130 million (including \$8.5 million for administration) in grants and loans to local agencies throughout the State.

*Line 17, Special Capital Requirements Under Revenue Bond Financing*, presents special capital requirements at the time revenue bonds are sold. The financial analysis assumes that proceeds from any future revenue bonds will be used to pay for bond discounts, bond issuance costs, and debt service reserve requirements.

Information about the application of proceeds to these special requirements for actual and assumed revenue bond sales is presented in Table 14-7.

*Line 18, Total Capital Requirements*, is the total of Lines 15, 16, and 17.

*Line 19, Power Facilities Capital Requirements*, shows the total capital requirements for power facilities included in Line 18.

*Line 20, Water Facilities Capital Requirements*, shows the total capital requirements for water facilities included in Line 18.

## Capital Financing

The SWP was constructed using three general types of financing: Burns-Porter Act, revenue bonds, and capital resources. Lines 21 through 37 of Table 14-1 present specific information about these financing sources.

### Burns-Porter Act

Burns-Porter Act financing is derived from the sale of California Water Resources Development Bonds (general obligation bonds) and State tideland oil revenues deposited in the California Water Fund as authorized by the Burns-Porter Act (California Water Code Sections 12930–12944), approved by voters in November 1960. The Burns-Porter Act authorized an issuance of \$1.75 billion of general obligation State bonds, which are repaid by revenues received according to the water supply contracts. Of that authorization, \$130 million was reserved specifically for the Davis-Grunsky Act Program.

Proceeds from the sale of general obligation bonds were deposited in the California Water Resources Development Bond Fund—Bond Proceeds Account, from which monies were expended only for the construction of SWP facilities and for the Davis-Grunsky Act Program. Approximately 25 percent of the expenditures through 2013 for construction and the Davis-Grunsky Act Program were financed with general obligation bonds.

**Table 14-7 Application of Revenue Bond Proceeds (in millions of dollars)**

| <b>Bond Series<sup>a</sup></b>     | <b>Construction Expenditures</b> | <b>Other Capital Requirements</b> |                      |                             |   |          | <b>Total Principal Amount of Bonds</b> |
|------------------------------------|----------------------------------|-----------------------------------|----------------------|-----------------------------|---|----------|--|
|                                    |                                  | Reimbursement of General Fund     | Capitalized Interest | Capitalized Operating Costs | Bond Financing and Refunding Costs <sup>b</sup> | Subtotal |  |
| Oroville                           | 218.0                            | 2.6                               | 19.9                 | 1.5                         | 3.0   | 27.0     | 245.0                                  |
| Devil Canyon-Castaic               | 126.4                            | 0.0                               | 10.0                 | 0.7                         | 2.1   | 12.8     | 139.2                                  |
| Pyramid Series A                   | 74.0                             | 0.0                               | 19.2                 | 1.0                         | 1.6   | 21.8     | 95.8                                   |
| Reid Gardner Series B              | 146.1                            | 0.0                               | 41.9                 | 0.0                         | 12.0  | 53.9     | 200.0                                  |
| Reid Gardner Series C              | 91.1                             | 0.0                               | 17.9                 | 7.9                         | 8.1   | 33.9     | 125.0                                  |
| Small Hydro-South Geysers Series D | 49.6                             | 0.0                               | 19.9                 | 0.0                         | 5.5   | 25.4     | 75.0                                   |
| Bottle Rock Series E               | 96.9                             | 0.0                               | 22.0                 | 3.7                         | 2.4   | 28.1     | 125.0                                  |
| Alamo-South Geysers Series F       | 59.1                             | 0.0                               | 14.2                 | 0.0                         | 1.7   | 15.9     | 75.0                                   |
| Reid Gardner Series G              | 1.6                              | 0.0                               | 0.0                  | 0.0                         | 237.9   | 237.9    | 239.5                                  |
| Power Facilities Series H          | 22.2                             | 0.0                               | 0.0                  | 0.0                         | 184.5   | 184.5    | 206.7                                  |
| East Branch Enlargement Series A   | 108.3                            | 0.0                               | 12.6                 | 0.0                         | 11.1  | 23.7     | 132.0                                  |
| Water System Facilities Series B   | 97.4                             | 0.0                               | 0.0                  | 0.0                         | 2.6   | 2.6      | 100.0                                  |
| Water System Facilities Series C   | 0.6                              | 0.0                               | 0.0                  | 0.0                         | 8.4   | 8.4      | 9.0                                    |
| Water System Facilities Series D   | 95.9                             | 0.0                               | 2.9                  | 0.0                         | 1.2   | 4.1      | 100.0                                  |
| Water System Facilities Series E   | 0.4                              | 0.0                               | 0.0                  | 0.0                         | 8.6   | 8.6      | 9.0                                    |
| Water System Facilities Series F   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 160.0   | 160.0    | 160.0                                  |
| Water System Facilities Series G   | 86.8                             | 0.0                               | 4.6                  | 0.0                         | 8.6   | 13.2     | 100.0                                  |
| Water System Facilities Series H   | 85.5                             | 0.0                               | 5.7                  | 0.0                         | 8.8   | 14.5     | 100.0                                  |
| Water System Facilities Series I   | 158.9                            | 0.0                               | 5.8                  | 0.0                         | 15.3  | 21.1     | 180.0                                  |
| Water System Facilities Series J   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 649.8   | 649.8    | 649.8                                  |
| Water System Facilities Series K   | 88.6                             | 0.0                               | 3.1                  | 0.0                         | 8.3   | 11.4     | 100.0                                  |
| Water System Facilities Series L   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 537.8   | 537.8    | 537.8                                  |
| Water System Facilities Series M   | 166.3                            | 0.0                               | 9.9                  | 0.0                         | 13.8  | 23.7     | 190.0                                  |
| Water System Facilities Series N   | 137.4                            | 0.0                               | 6.0                  | 0.0                         | 8.6   | 14.6     | 152.0                                  |
| Water System Facilities Series O   | 156.5                            | 0.0                               | 8.4                  | 0.0                         | 170.1   | 178.5    | 335.0                                  |
| Water System Facilities Series P   | 141.6                            | 0.0                               | 5.2                  | 0.0                         | 13.2  | 18.4     | 160.0                                  |
| Water System Facilities Series Q   | 135.0                            | 0.0                               | 8.0                  | 0.0                         | 123.6   | 131.6    | 266.6                                  |
| Water System Facilities Series R   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 20.7  | 20.7     | 20.7                                   |
| Water System Facilities Series S   | 78.2                             | 0.0                               | 5.8                  | 0.0                         | 116.2   | 122.0    | 200.2                                  |
| Water System Facilities Series T   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 135.7   | 135.7    | 135.7                                  |
| Water System Facilities Series U   | 98.7                             | 0.0                               | 5.3                  | 0.0                         | 103.2   | 108.5    | 207.2                                  |
| Water System Facilities Series V   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 20.6  | 20.6     | 20.6                                   |
| Water System Facilities Series W   | 41.0                             | 0.0                               | 1.3                  | 0.0                         | 218.7   | 220.0    | 261.0                                  |
| Water System Facilities Series X   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 160.2   | 160.2    | 160.2                                  |
| Water System Facilities Series Y   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 329.9   | 329.9    | 329.9                                  |
| Water System Facilities Series Z   | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 170.7   | 170.7    | 170.7                                  |
| Water System Facilities Series AA  | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 108.7   | 108.7    | 108.7                                  |
| Water System Facilities Series AB  | 92.2                             | 0.0                               | 3.9                  | 0.0                         | 93.6  | 97.5     | 189.7                                  |
| Water System Facilities Series AC  | 13.7                             | 0.0                               | 0.6                  | 0.0                         | 257.7   | 258.3    | 272.0                                  |
| Water System Facilities Series AD  | 12.4                             | 0.0                               | 0.9                  | 0.0                         | 99.1  | 100.0    | 112.4                                  |
| Water System Facilities Series AE  | 383.9                            | 0.0                               | 9.5                  | 0.0                         | 239.5   | 249.0    | 632.9                                  |
| Water System Facilities Series AF  | 33.4                             | 0.0                               | 1.3                  | 0.0                         | 253.1   | 254.4    | 287.7                                  |
| Water System Facilities Series AG  | 9.9                              | 0.0                               | 0.4                  | 0.0                         | 158.8   | 159.2    | 169.1                                  |
| Water System Facilities Series AH  | 71.7                             | 0.0                               | 3.6                  | 0.0                         | 22.3  | 26.0     | 97.7                                   |
| Water System Facilities Series AI  | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 92.3  | 92.3     | 92.3                                   |

**Table 14-7 Application of Revenue Bond Proceeds (in millions of dollars)****(continued)**

| <b>Bond Series<sup>a</sup></b>       | <b>Construction Expenditures</b> | <b>Other Capital Requirements</b> |                      |                             |   |                | <b>Total Principal Amount of Bonds</b> |
|--------------------------------------|----------------------------------|-----------------------------------|----------------------|-----------------------------|---|----------------|--|
|                                      |                                  | Reimbursement of General Fund     | Capitalized Interest | Capitalized Operating Costs | Bond Financing and Refunding Costs <sup>b</sup> | Subtotal       |  |
| Water System Facilities Series AJ    | 69.3                             | 0.0                               | 3.7                  | 0.0                         | 143.9   | 147.6          | 216.9                                  |
| Water System Facilities Series AK    | 32.0                             | 0.0                               | 0.9                  | 0.0                         | 3.4   | 4.3            | 36.3                                   |
| Water System Facilities Series AL    | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 105.9   | 105.9          | 105.9                                  |
| Water System Facilities Series AM    | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 184.0   | 184.0          | 184.0                                  |
| Water System Facilities Series AN    | 44.8                             | 0.0                               | 0.3                  | 0.0                         | 4.4   | 4.7            | 49.5                                   |
| Water System Facilities Series AO    | 0.0                              | 0.0                               | 0.0                  | 0.0                         | 317.5   | 317.5          | 317.5                                  |
| Water System Facilities Series AP    | 47.7                             | 0.0                               | 1.2                  | 0.0                         | (3.5)   | (2.4)          | 45.3                                   |
| Water System Facilities Series AQ    | 122.6                            | 0.0                               | 7.2                  | 0.0                         | (9.6)   | (2.4)          | 120.2                                  |
| <i>Subtotal</i>                      | <b>3,495.6</b>                   | <b>2.6</b>                        | <b>283.2</b>         | <b>14.8</b>                 | <b>5,555.5</b>                                  | <b>5,856.1</b> | <b>9,351.8<sup>c</sup></b>             |
| Future East Branch Enlargement Bonds | 8.4                              | 0.0                               | 0.6                  | 0.0                         | 0.7   | 1.3            | 9.6                                    |
| Future East Branch Extension Bonds   | 44.0                             | 0.0                               | 1.9                  | 0.0                         | 2.4   | 4.4            | 48.3                                   |
| Future SBA Enlargement Bonds         | 9.3                              | 0.0                               | 0.4                  | 0.0                         | 0.5   | 1.0            | 10.3                                   |
| Future Water System Facilities Bonds | 1,706.6                          | 0.0                               | 81.8                 | 0.0                         | 104.1   | 185.8          | 1,892.5                                |
| <b>Total</b>                         | <b>5,264.0</b>                   | <b>2.6</b>                        | <b>367.9</b>         | <b>14.8</b>                 | <b>5,663.3</b>                                  | <b>6,048.6</b> | <b>11,312.5</b>                        |

<sup>a</sup> Actual bond issue for all except future East Branch Enlargement, future East Branch Extension, future South Bay Aqueduct Improvements and Enlargement, and future Water System Facilities bonds.<sup>b</sup> Bond financing and refunding costs include funds applied to debt service reserve requirements.<sup>c</sup> Includes \$5,221.4 million of refunded principal, leaving a net principal obligation of \$4,130.4 million.

Monies deposited in the California Water Fund were appropriated for purposes outlined in the Burns-Porter Act. Such deposits were derived from a portion of the State tideland oil revenues, in accordance with a continuing authorization. The California Water Fund was used to finance \$508 million, or approximately 7 percent, of the construction expenditures through 2013.

### Revenue Bonds

Revenue bond financing is derived from the sale of revenue bonds as authorized by the Central Valley Project Act (California Water Code Sections 11100–11925). DWR's authority to issue revenue bonds was confirmed by a decision of the California Supreme Court in 1963 (*Warne v. Harkness*, 60 Cal. 2d 579).

Proceeds from the sale of revenue bonds are deposited in the Central Valley Water Project Construction Fund, from which money is expended only for purposes specified in the resolution authorizing each bond sale. Those purposes, in addition to paying

construction, planning, and right-of-way costs, may include funding the Debt Service Reserve Account, paying interest on bonds, and paying water system operating expenses during a specified period.

As of December 31, 2013, DWR had sold \$9.4 billion of revenue bonds. That amount includes \$5.2 billion of refunded bonds, leaving a total principal obligation of \$4.1 billion.

### Capital Resources

Capital resources financing is derived from payments and appropriations (including a portion of the State tideland oil revenues) authorized by a variety of special contracts, cost-sharing agreements, and legislative actions concerning the SWP, plus accrued interest on these funds. Capital resources revenues are deposited in the Central Valley Water Project Construction Fund and may be expended for interest on general obligation bonds and costs of constructing SWP facilities.

According to DWR's financial management policy, the capital resources revenues are used first to cover any general obligation bond debt service that exceeds available revenues.

## Capital Financing Sources

Capital financing sources include power revenue bonds, East Branch Enlargement bonds, East Branch Extension bonds, SBA Enlargement bonds, water system facilities bonds, initial project facilities bonds, bond proceeds from the Davis-Grunsky Act Program, California Water Fund monies, and capital resources revenues.

*Line 21, Power Facilities Revenue Bonds through Series H*, includes the proceeds applied from power revenue bonds for Oroville, Devil Canyon, Castaic, Warne, Reid Gardner, Bottle Rock, Alamo, South Geysers, and small hydro projects.

No future power revenue bond sales are projected for this financial analysis.

*Line 22, East Branch Enlargement, Current Bonds*, shows that \$474 million of Water System Revenue Bond proceeds has been applied to the East Branch Enlargement project through December 31, 2013. Of this total, \$417 million was used for construction expenditures and \$57 million was used for bond discounts, interest costs, and debt service reserve requirements.

*Line 23, East Branch Enlargement, Future Bonds*, shows DWR's estimate of \$9.6 million of additional bonds required to complete construction of the East Branch Enlargement Phase II.

*Line 24, East Branch Extension, Current Bonds*, shows that \$340 million of Water System Revenue Bond proceeds has been spent through December 31, 2013.

*Line 25, East Branch Extension, Future Bonds*, shows DWR's estimate of

\$48.3 million of additional bonds required to complete construction of the East Branch Extension and to pay for bond discounts, capitalized interest, and debt service reserve requirements.

*Line 26, South Bay Aqueduct Enlargement, Current Bonds*, shows that \$201 million of Water System Revenue Bond proceeds had been spent through December 31, 2013.

*Line 27, South Bay Aqueduct Enlargement, Future Bonds*, shows DWR's estimate of \$10.3 million of additional bonds required to complete construction of the SBA Enlargement and to pay for bond discounts, capitalized interest, and debt service reserve requirements.

*Line 28, Water System Facilities, Current Bonds*, shows that through December 31, 2013, \$1.9 billion of proceeds from Water System Revenue Bonds, Series A through Series AQ, was applied to SWP projects other than the East Branch Enlargement, the East Branch Extension, and the SBA Enlargement. Of this total, \$1.7 billion was used to pay for construction expenditures and \$0.2 billion was used to pay for bond discounts, capitalized interest, and debt service reserve requirements.

*Line 29, Water System Facilities, Future Bonds*, shows that \$1.9 billion of future water revenue bonds is needed to provide \$1.7 billion for construction of SWP water system facilities and \$0.2 billion for bond discounts, interest costs, and debt service reserve requirements.

*Line 30, Subtotal, Water System Revenue Bonds*, is the total of Lines 22 through 29.

*Line 31, Initial Project Facilities Bond Proceeds*, shows the amount of general obligation bonds sold to provide financing costs for initial SWP facilities and for costs of planning certain additional conservation facilities.

Financing initial facilities from general obligation bonds was completed in mid-1972 and totaled \$1.444 billion—\$1.750 billion Burns-Porter Act authorization less \$130 million reserved for the Davis-Grunsky Act Program and \$176 million “offset” for additional conservation facilities. (The Burns-Porter Act provides that to the extent California Water Fund monies are expended, an equal amount of general obligation bonds are reserved [offset] for financing the construction of additional conservation facilities in certain watersheds.)

In mid-1972, the reservation of offset bonds was effectively limited to \$176 million, the total amount of California Water Fund monies expended up to that time. By mid-1972, all general obligation bonds authorized by the Burns-Porter Act had been offset, reserved for the Davis-Grunsky Act Program, or used for SWP construction.

Approximately \$8.5 million of the offset bonds was used to finance planning studies of the Middle Fork Eel River Development. This financial analysis is not based on the use of any offset bond proceeds to meet capital requirements. If, at some time, the State constructs an additional conservation facility, as specified in California Water Code Section 12938, the remaining offset bonds could be sold.

*Line 32, Davis-Grunsky Act Program Bond Proceeds*, shows, for simplification, the entire \$130 million of capital expenditures authorized for the Davis-Grunsky Act Program, according to the Burns-Porter Act, as being funded by proceeds from the sale of general obligation bonds. In fact, \$102 million originated from bond proceeds while \$28 million from the California Water Fund was used for the program in lieu of bond proceeds prior to 1969. Since the final offset in 1994, DWR has accumulated \$44.6 million in capital costs through fiscal year 2006–2007.

*Line 33, Application of California Water Fund Monies*, shows the amount of SWP costs financed under the Burns-Porter Act. The act provides that any available money in the California Water Fund must be used for construction in lieu of proceeds from the sale of general obligation bonds.

When the Burns-Porter Act became effective in late 1960, approximately \$97 million had been accumulated in the fund. That balance, plus subsequent appropriations, interest earnings, and other miscellaneous income to the fund through December 31, 2013, was used to finance a total of \$508 million of SWP costs.

*Line 34, Interim Financing*, shows the net annual amounts of funds flowing into and out of the Water Revenue Commercial Paper Notes program. This program was established in March 1993 to provide an ongoing source of interim financing for water system projects prior to permanent financing from the sale of long-term revenue bonds. DWR has authority to issue up to \$150 million of Water Revenue Commercial Paper Notes. A positive number indicates money borrowed from the program to finance construction costs. A negative number indicates money repaid to the program. The financial analysis assumes that all funds borrowed from the program will be repaid before the end of the analysis period.

*Line 35, Application of Capital Resources Revenues to Construction*, presents the Capital Resources Revenues applied for capital expenditures.

*Line 36, Revenue Transfers Applied*, shows monies assumed to be transferred to the California Water Fund, according to provisions of the Burns-Porter Act, and subsequently reappropriated to construction (see Line 40 of Table 14-2). Projected amounts for the years 2014 through 2023 include funds to finance expenditures for agricultural drainage facilities, as indicated

in Line 13 of Table 14-1, and expenditures for additional conservation facilities, as indicated in Line 12.

*Line 37, Subtotal, Other Capital Financing*, is the total of Lines 31 through 36.

*Line 38, Total Financing of Capital Requirements*, totals Lines 21, 30, and 37.

## Annual Revenues and Expenditures

After financial analysis of SWP operations, DWR concluded that projected payments by contractors and other revenues will be adequate to pay annual operations, maintenance, power, and replacement costs and meet all repayment obligations on funds used to finance SWP construction and other authorized costs during the period 2014 through 2023. Data on annual revenues and expenditures are presented in Table 14-2. A detailed discussion of each line item follows.

### Project Revenues

Project revenues primarily consist of SWP water contractor payments required under their individual long-term water supply contracts. Those revenues are deposited in two funds: the Central Valley Water Project Revenue Fund, where all revenues pledged to revenue bonds are placed, and the California Water Resources Development Bond Fund—Systems Revenue Account, where all other SWP operating revenues are placed. Use of those funds is limited to paying operating costs and debt service; except that revenues in excess of those costs may be deposited to a reserve for future SWP construction, since the California Water Fund has been repaid (see Line 39).

*Line 1, Capital Resources Revenues*, includes the following:

- federal payments for SWP capital expenditures;

- appropriations for capital costs allocated to recreation;
- appropriations for SWP capital expenditures prior to passage of the Burns-Porter Act and according to Senate Bill 261 (1968);
- payments from Los Angeles Department of Water and Power for Castaic power development;
- advances from contractors for construction of requested work;
- investment earnings on the Capital Resources Account; and
- investment earnings on unexpended revenue bond proceeds.

Historically, appropriations for capital costs allocated to recreation and fish and wildlife enhancement have amounted to \$5 million per year and have been appropriated by the California Legislature from the State tideland oil revenues. There have been no appropriations from this fund since 1985.

Legislation enacted in 1989 offset a portion of the amount owed to the SWP by the State for costs allocated to recreation and fish and wildlife enhancement against the amount the SWP owed to the California Water Fund (see Line 39). Since the final offset in 1994, DWR has accumulated \$56.6 million in capital costs through fiscal year 2012–2013.

In 2012, the Davis-Dolwig Act was amended to appropriate \$10 million per fiscal year from the Harbors and Watercraft Revolving Fund to cover the OMP&R and capital costs allocated to recreation and fish and wildlife enhancement. Starting in fiscal year 2012–2013, \$7.5 million is being appropriated for on-going OMP&R and capital costs and \$2.5 million is being appropriated to reimburse for past unreimbursed OMP&R and capital costs.

*Lines 2 through 12, Water Contractor Payments*, show amounts of the separate elements of water contractor payments.

Amounts in Line 4 also include revenues sufficient to cover costs associated with sales of excess power. Appendix B of this bulletin presents a detailed explanation of payments identified in Lines 2 through 12.

Operations, maintenance, power, and replacement (OMP&R) costs are repaid as they are incurred as part of the Transportation Charge; therefore, no interest charges are included. Construction costs included in the Transportation Charge, and all construction and annual OMP&R costs included in the Delta Water Charge, are to be repaid with interest at the Project Interest Rate.

The Project Interest Rate, as defined in Article 1(r) of the standard provisions of the long-term water supply contracts, is the weighted average of the rates paid on certain securities issued and loans obtained to finance SWP facilities.

According to the original water supply contract provisions, the basis for determining the Project Interest Rate was the weighted average of rates paid on general obligation bond sales only. In 1969, after Oroville Revenue Bonds were issued, the contracts were amended to expand the basis to include rates on all other securities sold and loans obtained thereafter for financing SWP facilities, including revenue bonds (see Bulletin 132-70, page 28).

However, not all proceeds from the sale of revenue bonds are melded into the calculation of the Project Interest Rate. Only those proceeds applied to construction costs (the only application of general obligation bonds permitted by law) and those consumed by the bond discount (a component of the total interest cost of a revenue bond issue) are included in the calculation (see Table 14-8).

Calculations for determining the Project Interest Rate do not include proceeds from the sale of revenue bonds for Off-Aqueduct Power facilities, the East Branch Enlargement facilities, SBA, or water system facilities defined in the Water Revenue Bond Amendment. Table 14-9 lists all bond sales by date and presents basic information used in the calculation of the Project Interest Rate.

Information about contractor water charges in Appendix B, which can be found in the back of this bulletin, is based on known conditions and substantiates DWR's determination of 2015 water charges to be billed on July 1, 2014. However, information about significant differences between the sum of future charges included in Lines 2 through 12 of Table 14-2 and the substantiation of 2014 charges included in Appendix B are as follows.

- Future capital costs in Appendix B are based on the prevailing prices as of December 31, 2013. Those costs presented in the financial analysis include allowances for price escalation.
- Pre-2014 charges in Appendix B represent charges as they should have been, according to currently known conditions. Pre-2014 charges included in Table 14-2 are those actually paid as part of previously determined bills.
- Charges in Appendix B are unadjusted for past overpayments or underpayments. Charges included in Table 14-2 for 2014 and thereafter have been adjusted for any apparent overpayments or underpayments of pre-2014 charges.
- Charges in Appendix B for East Branch Enlargement costs include the amounts for debt service and 25 percent cover for the East Branch Enlargement share of the Series A through Series AQ bonds. Charges in Table 14-2 apply to Series A through Series AQ bonds and also include amounts of the debt service and cover for assumed future bonds.

**Table 14-8 Revenue Bond Proceeds Affecting Project Interest Rate (in millions of dollars)**

| Project  | Proceeds Included in Project Interest Rate |  |   |  | Total Principal Amount of Bonds | Percentage of Total Amount Included in Calculating Project Interest Rate [4] / [5] |
|--|--|--|---|--|---------------------------------|--|
|  | Applied to Construction Costs [1]          | Less Portion of Proceeds Derived from Interest Earnings Prior to Delivery of Bonds [2] | Plus Bond Financing and Refunding Costs [3] | Subtotal, Proceeds Included in Calculating Project Interest Rate [1] - [2] + [3] |                                 |  |
| Devil Canyon-Castaic Project Revenue Bonds     | 125.3                                      | 1.5  | 1.4   | 125.2  | 139.2                           | 90   |
| Pyramid Project Revenue Bonds (Series A)       | 71.2                                       | 0.5  | 1.1   | 71.8   | 95.8                            | 75   |
| Alamo Project Bond Anticipation Note           | 16.8                                       | 0.1  | 0.3   | 17.0   | 24.4                            | 70   |
| Small Hydro Project I Revenue Bonds (Series D) | 25.4                                       | 0.2  | 1.5   | 26.7   | 37.5                            | 71   |
| Alamo Project Revenue Bonds (Series F)         | 38.9                                       | 0.3  | 0.7   | 39.3   | 50.0                            | 79   |
| Power Facilities Revenue Bonds (Series H)      |  |  |   |  |                                 |  |
| Pyramid Project                                | 5.0  | 0.0  | 0.1   | 5.1  | 5.1                             | 100  |
| Alamo Project                                  | 1.7  | 0.0  | 0.0   | 1.7  | 1.7                             | 100  |
| Small Hydro Project I                          | 25.2 <sup>a</sup>                          | 0.2  | 0.4   | 25.4   | 35.6                            | 71   |
| Water System Revenue Bonds (Series J)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 75.9 <sup>b</sup>                           | 75.9   | 99.2 <sup>b</sup>               | 77   |
| Alamo Project                                  | 0.0  | 0.0  | 45.6 <sup>b</sup>                           | 45.6   | 57.1 <sup>b</sup>               | 80   |
| Small Hydro Project I                          | 0.0  | 0.0  | 27.8 <sup>b</sup>                           | 27.8   | 38.8 <sup>b</sup>               | 72   |
| Water System Revenue Bonds (Series L)          |  |  |   |  |                                 |  |
| Small Hydro Project I                          | 0.0  | 0.0  | 1.5 <sup>b</sup>                            | 1.5  | 2.1 <sup>b</sup>                | 71   |
| Water System Revenue Bonds (Series Q)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 3.0 <sup>b</sup>                            | 3.0  | 3.9 <sup>b</sup>                | 77   |
| Alamo Project                                  | 0.0  | 0.0  | 4.8 <sup>b</sup>                            | 4.8  | 6.0 <sup>b</sup>                | 80   |
| Water System Revenue Bonds (Series S)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 8.0 <sup>b</sup>                            | 8.0  | 10.4 <sup>b</sup>               | 77   |
| Alamo Project                                  | 0.0  | 0.0  | 7.6 <sup>b</sup>                            | 7.6  | 9.5 <sup>b</sup>                | 80   |
| Water System Revenue Bonds (Series U)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 2.4 <sup>b</sup>                            | 2.4  | 3.2 <sup>b</sup>                | 75   |
| Alamo Project                                  | 0.0  | 0.0  | 3.2 <sup>b</sup>                            | 3.2  | 4.0 <sup>b</sup>                | 80   |
| Water System Revenue Bonds (Series W)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 27.7 <sup>b</sup>                           | 27.7   | 36.0 <sup>b</sup>               | 77   |
| Alamo Project                                  | 0.0  | 0.0  | 11.8 <sup>b</sup>                           | 11.8   | 14.7 <sup>b</sup>               | 80   |
| Small Hydro Project (construction)             | 3.4  | 0.0  | 0.0   | 3.4  | 3.7                             | 92   |
| Small Hydro Project (refunding)                | 0.0  | 0.0  | 16.3 <sup>b</sup>                           | 16.3   | 22.7 <sup>b</sup>               | 72   |
| Water System Revenue Bonds (Series X)          |  |  |   |  |                                 |  |
| Pyramid Project                                | 0.0  | 0.0  | 8.5 <sup>b</sup>                            | 8.5  | 11.0 <sup>b</sup>               | 77   |
| Alamo Project (Series H refunding)             | 0.0  | 0.0  | 0.3 <sup>b</sup>                            | 0.3  | 0.3 <sup>b</sup>                | 100  |
| Alamo Project (Series F refunding)             | 0.0  | 0.0  | 3.9 <sup>b</sup>                            | 3.9  | 4.9 <sup>b</sup>                | 79   |
| Small Hydro Project                            | 0.0  | 0.0  | 4.6 <sup>b</sup>                            | 4.6  | 6.4 <sup>b</sup>                | 72   |

<sup>a</sup>Amount consists of 71 percent of proceeds deposited in escrow to refund portion of Series D bonds (\$35.1 million plus deposits to construction account [\$0.3 million]).<sup>b</sup>Represents amount of principal used to refund portions of prior bond issues.

Table 14-9 Actual Bond Sales and Project Interest Rates, by Date of Sale

| Bond Sales   | Date of Sale | Delivery Date | Dollar-Years <sup>a</sup><br>(thousands) | Interest Cost<br>(thousands) | Issue Interest<br>Rate <sup>b</sup><br>(percent) | Project<br>Interest Rate <sup>c</sup><br>(percent) |
|--|--------------|---------------|--|------------------------------|--|--|
| \$ 50,000,000 Bond Anticipation Notes                                  | 11/21/63     | 11/21/63      | 26,944                                   | 531                          | 1.971  | 1.971  |
| \$100,000,000 Series A Water Bonds                                     | 2/18/64      | 2/18/64       | 3,402,000                                | 119,750                      | 3.520  | 3.508  |
| \$ 50,000,000 Series B Water Bonds                                     | 5/05/64      | 5/05/64       | 1,726,000                                | 60,986                       | 3.533  | 3.516  |
| \$100,000,000 Series C Water Bonds                                     | 10/07/64     | 10/07/64      | 3,452,000                                | 123,764                      | 3.585  | 3.544  |
| \$100,000,000 Series D Water Bonds                                     | 2/16/65      | 2/16/65       | 3,497,900                                | 122,403                      | 3.499  | 3.531  |
| \$100,000,000 Series E Water Bonds                                     | 11/23/65     | 11/23/65      | 3,497,900                                | 130,029                      | 3.717  | 3.573  |
| \$100,000,000 Series F Water Bonds                                     | 6/08/66      | 6/08/66       | 3,497,900                                | 137,359                      | 3.927  | 3.638  |
| \$100,000,000 Series G Water Bonds                                     | 11/22/66     | 11/22/66      | 3,497,900                                | 143,788                      | 4.111  | 3.711  |
| \$100,000,000 Series H Water Bonds                                     | 3/21/67      | 3/21/67       | 3,497,900                                | 129,261                      | 3.695  | 3.709  |
| \$100,000,000 Series J Water Bonds                                     | 7/18/67      | 7/18/67       | 3,497,900                                | 143,199                      | 4.094  | 3.754  |
| \$100,000,000 Series K Water Bonds                                     | 11/14/67     | 11/14/67      | 3,497,900                                | 163,887                      | 4.685  | 3.853  |
| \$150,000,000 Revenue Bonds, Oroville Division, Series A               | 4/03/68      | 4/03/68       | 5,228,700                                | 270,289                      | 5.169  |  |
| \$100,000,000 Series L Water Bonds                                     | 7/11/68      | 7/11/68       | 3,497,900                                | 166,918                      | 4.772  | 3.941  |
| \$100,000,000 Series M Water Bonds                                     | 10/22/68     | 10/22/68      | 3,497,900                                | 169,989                      | 4.860  | 4.021  |
| \$ 94,995,000 Revenue Bonds, Oroville Division, Series B               | 4/01/69      | 4/01/69       | 3,423,460                                | 195,902                      | 5.722  |  |
| \$ 46,761,000 Cumulative 1970 General Fund Borrowing, repaid 7/10/70   | -            |               | 4,938                                    | 346                          | 7.007  |  |
| \$200,000,000 Series N and P Bond Anticipation Notes                   | 6/16/70      | 6/16/70       | 200,000                                  | 11,660                       | 5.830  | 4.030  |
| \$100,000,000 Series N Water Bonds                                     | 2/02/71      | 2/02/71       | 3,447,900                                | 190,292                      | 5.519  | 4.148  |
| \$100,000,000 Series Q Bond Anticipation Notes                         | 3/10/71      | 3/10/71       | 100,000                                  | 2,349                        | 2.349  | 4.143  |
| \$100,000,000 Series P Water Bonds                                     | 4/21/71      | 4/21/71       | 3,397,900                                | 193,377                      | 5.691  | 4.255  |
| \$150,000,000 Series Q and R Water Bonds                               | 11/09/71     | 11/09/71      | 5,171,850                                | 265,734                      | 5.138  | 4.342  |
| \$ 40,000,000 Series S Water Bonds                                     | 3/28/72      | 3/28/72       | 1,399,160                                | 76,509                       | 5.468  | 4.371  |
| \$139,165,000 Devil Canyon-Castaic Revenue Bonds                       | 8/08/72      | 8/08/72       | 4,776,204                                | 258,839                      | 5.419  | 4.457  |
| \$ 10,000,000 Series T Water Bonds                                     | 3/20/73      | 3/20/73       | 185,265                                  | 9,491                        | 5.123  | 4.459  |
| \$ 10,000,000 Series U Water Bonds                                     | 1/13/76      | 1/13/76       | 158,750                                  | 8,731                        | 5.500  | 4.462  |
| \$ 10,000,000 Series V Water Bonds                                     | 11/15/77     | 11/15/77      | 158,750                                  | 7,573                        | 4.770  | 4.462  |
| \$ 95,800,000 Pyramid Hydroelectric Revenue Bonds                      | 10/23/79     | 10/23/79      | 2,260,072                                | 172,495                      | 7.632  | 4.584  |
| \$150,000,000 Reid Gardner Project, Series A Bond Anticipation Notes   | 7/1/81       | 7/1/81        | 347,906                                  | 29,572                       | 8.500  |  |
| \$ 75,600,000 Bottle Rock Project, Bond Anticipation Notes             | 12/1/81      | 12/1/81       | 264,600                                  | 25,137                       | 9.500  |  |
| \$ 24,400,000 Alamo Project, Bond Anticipation Notes                   | 12/1/81      | 12/1/81       | 24,266                                   | 2,305                        | 9.499  | 4.589  |
| \$200,000,000 Reid Gardner Project, Series B Revenue Bonds             | 7/07/82      | 7/07/82       | 4,623,137                                | 553,793                      | 11.979   |  |
| \$125,000,000 Reid Gardner Project, Series C Revenue Bonds             | 11/16/82     | 11/16/82      | 2,720,045                                | 255,744                      | 9.402  |  |
| \$ 37,500,000 Small Hydro Project I, Series D Revenue Bonds            | 11/16/82     | 11/16/82      | 837,769                                  | 84,587                       | 10.097   | 4.666  |
| \$ 37,500,000 South Geysers Project, Series D Revenue Bonds            | 11/16/82     | 11/16/82      | 930,325                                  | 90,021                       | 9.676  |  |
| \$125,000,000 Bottle Rock Project, Series E Revenue Bonds              | 4/27/83      | 4/27/83       | 2,624,805                                | 225,102                      | 8.576  |  |
| \$ 50,000,000 Alamo Project, Series F Revenue Bonds                    | 4/27/83      | 4/27/83       | 1,190,763                                | 100,836                      | 8.468  | 4.727  |
| \$ 25,000,000 South Geysers Project, Series F Revenue Bonds            | 4/27/83      | 4/27/83       | 608,550                                  | 52,578                       | 8.640  |  |
| \$239,505,000 Reid Gardner Project, Series G Revenue Bonds             | 3/15/85      | 3/15/85       | 4,524,136                                | 425,840                      | 9.413  |  |
| \$206,690,000 Power Facilities Series H Revenue Bonds                  | 6/20/86      | 6/20/86       | 4,430,520                                | 347,745                      | 7.849  | 4.713  |
| \$132,000,000 East Branch Enlarg., Series A Water System Revenue Bonds | 7/15/86      | 7/15/86       | 3,427,165                                | 254,915                      | 7.438  |  |
| \$100,000,000 Series B Water System Revenue Bonds                      | 5/05/87      | 5/05/87       | 2,564,012                                | 194,817                      | 7.598  |  |
| \$ 9,000,000 Series C Water System Revenue Bonds                       | 12/01/87     | 12/01/87      | 324,000                                  | 31,995                       | 9.875  |  |
| \$100,000,000 Series D Water System Revenue Bonds                      | 6/14/88      | 6/14/88       | 2,640,510                                | 201,253                      | 7.622  |  |
| \$ 9,000,000 Series E Water System Revenue Bonds                       | 11/29/88     | 12/5/88       | 324,000                                  | 31,995                       | 9.875  |  |
| \$160,030,000 Series F Water System Revenue Bonds                      | 3/15/89      | 4/20/89       | 2,779,838                                | 189,261                      | 6.808  |  |

**Table 14-9 Actual Bond Sales and Project Interest Rates, by Date of Sale**

| Bond Sales   | Date of Sale | Delivery Date | Dollar-Years <sup>a</sup><br>(thousands) | Interest Cost<br>(thousands) | Issue Interest<br>Rate <sup>b</sup><br>(percent) | Project<br>Interest Rate <sup>c</sup><br>(percent) |
|--|--------------|---------------|--|------------------------------|--|--|
| \$100,000,000 Series G Water System Revenue Bonds  | 3/06/90      | 3/06/90       | 2,434,175                                | 172,277                      | 7.077  |  |
| \$100,000,000 Series H Water System Revenue Bonds  | 1/10/91      | 1/10/91       | 2,459,172                                | 168,857                      | 6.866  |  |
| \$180,000,000 Series I Water System Revenue Bonds  | 5/14/91      | 5/14/91       | 4,366,680                                | 294,090                      | 6.735  |  |
| \$649,835,000 Series J Water System Revenue Bonds  | 1/16/92      | 1/28/92       | 12,422,222                               | 745,198                      | 5.999  |  |
| \$100,000,000 Series K Water System Revenue Bonds  | 5/12/92      | 6/4/92        | 2,366,783                                | 147,064                      | 6.214  |  |
| \$ 9,000,000 Series W Water Bonds                  | 8/19/92      | 8/19/92       | 95,250                                   | 6,172                        | 6.480  | 4.621  |
| \$537,830,000 Series L Water System Revenue Bonds  | 5/19/93      | 6/02/93       | 11,414,859                               | 640,518                      | 5.611  | 4.620  |
| \$ 2,000,000 Series X Water Bonds                  | 9/01/93      | 9/01/93       | 26,000                                   | 1,247                        | 4.796  | 4.621  |
| \$ 1,400,000 Series Y Water Bonds                  | 11/30/94     | 11/30/94      | 19,483                                   | 1,249                        | 6.411  |  |
| \$190,000,000 Series M Water System Revenue Bonds  | 12/9/93      | 12/21/93      | 3,911,846                                | 194,981                      | 4.984  |  |
| \$152,000,000 Series N Water System Revenue Bonds  | 3/03/95      | 3/14/95       | 2,241,606                                | 122,658                      | 5.472  |  |
| \$335,000,000 Series O Water System Revenue Bonds  | 12/05/95     | 12/20/95      | 7,528,890                                | 375,667                      | 4.990  |  |
| \$160,000,000 Series P Water System Revenue Bonds  | 5/07/96      | 5/22/96       | 3,553,823                                | 204,524                      | 5.755  |  |
| \$266,630,000 Series Q Water System Revenue Bonds  | 11/05/96     | 12/04/96      | 5,481,815                                | 299,846                      | 5.470  | 4.620  |
| \$ 20,700,000 Series R Water System Revenue Bonds  | 3/10/97      | 3/12/97       | 564,125                                  | 36,627                       | 6.493  |  |
| \$200,205,000 Series S Water System Revenue Bonds  | 7/30/97      | 8/13/97       | 4,093,110                                | 203,755                      | 4.978  | 4.615  |
| \$135,665,000 Series T Water System Revenue Bonds  | 7/30/97      | 3/04/98       | 1,310,620                                | 66,942                       | 5.108  |  |
| \$207,180,000 Series U Water System Revenue Bonds  | 11/19/98     | 12/01/98      | 4,032,075                                | 200,758                      | 4.979  |  |
| \$ 20,580,000 Series V Water System Revenue Bonds  | 11/19/98     | 12/01/98      | 525,100                                  | 32,819                       | 6.250  |  |
| \$260,995,000 Series W Water System Revenue Bonds  | 5/01/01      | 5/17/01       | 3,659,312                                | 195,822                      | 5.351  | 4.613  |
| \$160,225,000 Series X Water System Revenue Bonds  | 5/01/02      | 6/04/02       | 2,732,785                                | 139,109                      | 5.090  | 4.610  |
| \$329,885,000 Series Y Water System Revenue Bonds  | 7/25/02      | 3/05/03       | 4,422,973                                | 222,654                      | 5.034  |  |
| \$170,655,000 Series Z Water System Revenue Bonds  | 10/01/02     | 10/16/02      | 1,706,132                                | 75,696                       | 4.437  |  |
| \$108,705,000 Series AA Water System Revenue Bonds | 10/04/02     | 3/05/03       | 2,114,341                                | 104,220                      | 4.929  |  |
| \$189,625,000 Series AB Water System Revenue Bonds | 3/09/04      | 3/18/04       | 4,344,942                                | 173,788                      | 4.000  |  |
| \$272,070,000 Series AC Water System Revenue Bonds | 12/15/04     | 1/06/05       | 4,479,436                                | 209,150                      | 4.669  |  |
| \$112,390,000 Series AD Water System Revenue Bonds | 6/14/05      | 7/07/05       | 1,827,449                                | 90,461                       | 4.950  | 4.608  |
| \$632,890,000 Series AE Water System Revenue Bonds | 4/23/08      | 5/01/08       | 8,884,000                                | 436,216                      | 4.910  |  |
| \$287,735,000 Series AF Water System Revenue Bonds | 3/11/09      | 3/19/09       | 2,980,895                                | 431,199                      | 14.465   |  |
| \$169,115,000 Series AG Water System Revenue Bonds | 11/17/09     | 12/02/09      | 2,907,605                                | 311,889                      | 10.727   |  |
| \$ 97,675,000 Series AH Water System Revenue Bonds | 10/27/10     | 11/09/10      | 1,432,014                                | 72,176                       | 5.040  | 4.610  |
| \$ 92,275,000 Series AI Water System Revenue Bonds | 10/27/10     | 9/07/11       | 698,716                                  | 34,936                       | 5.000  |  |
| \$216,930,000 Series AJ Water System Revenue Bonds | 10/06/11     | 10/13/11      | 2,080,429                                | 100,663                      | 4.839  |  |
| \$ 36,370,000 Series AK Water System Revenue Bonds | 2/28/12      | 3/13/12       | 495,566                                  | 23,466                       | 4.735  |  |
| \$105,875,000 Series AL Water System Revenue Bonds | 2/28/12      | 9/05/12       | 739,447                                  | 36,972                       | 5.000  |  |
| \$183,960,000 Series AM Water System Revenue Bonds | 2/28/12      | 3/05/13       | 1,440,539                                | 72,027                       | 5.000  |  |
| \$ 49,525,000 Series AN Water System Revenue Bonds | 9/19/12      | 9/27/12       | 646,489                                  | 31,783                       | 4.916  |  |
| \$317,505,000 Series AO Water System Revenue Bonds | 9/19/12      | 9/27/12       | 2,830,185                                | 71,219                       | 2.516  |  |
| \$45,340,000 Series AP Water System Revenue Bonds  | 3/12/13      | 3/26/13       | 621,111                                  | 25,008                       | 4.026  |  |
| \$120,205,000 Series AQ Water System Revenue Bonds | 5/21/13      | 6/18/13       | 2,120,496                                | 85,993                       | 4.055  |  |
| <b>Total</b>                                       |              |               | <b>224,458,230</b>                       | <b>13,121,641</b>            |  |  |
| <b>Portion allocated to Project Interest Rate</b>  |              |               | <b>63,903,487</b>                        | <b>2,945,789</b>             | <b>4.610</b>                                     | <b>4.610</b>                                       |

<sup>a</sup> A unit equivalent to one dollar of principal amount outstanding for one year.<sup>b</sup> The total interest cost (without regard to discounts paid or to premiums received) divided by the total dollar-years, expressed as a percent.<sup>c</sup> Cumulative interest costs divided by cumulative dollar-years, expressed as a percent. (Excluding Oroville Division bonds and revenue bonds for Off-Aqueduct Power Facilities, East Branch Enlargement Facilities, East Branch Extension Facilities, Water System Facilities as defined in the Water Revenue Bond Amendment, Coastal Extension Facilities, or South Bay Aqueduct Enlargement Facilities.)

- The water revenue bond surcharge in Appendix B applies only to the Series B through Series AQ bonds. Surcharge values included in Table 14-2 apply to Series B through Series AQ bonds and to assumed future issues required to finance SWP construction costs included in Table 14-1.

*Line 13, Subtotal, Water Contractor Payments,* is the total of Lines 2 through 12.

*Line 14, Revenue Bond Cover Adjustments,* represents the credit to contractors resulting from the cover of 25 percent of the annual debt service for Power Facilities Revenue Bonds and Water System Revenue Bonds. Cover is collected as required by the bond resolutions to provide security to the bondholders. If not needed to meet annual bond service, the cover is credited to the contractors in the following year. The annual charges for the following cost components include an amount for bond cover:

- minimum OMP&R component of the Transportation Charge for Off-Aqueduct Power Facilities;
- Water System Revenue Bond Surcharge;
- capital cost component of the Transportation Charge for East Branch Enlargement Facilities;
- capital cost component of the Transportation Charge for Coastal Branch Extension Facilities;
- capital cost component of the Transportation Charge for East Branch Extension Facilities;
- capital cost component of the Transportation Charge for Tehachapi Afterbay; and
- capital cost component of the Transportation Charge for SBA Enlargement.

*Line 15, Rate Management Adjustments,* shows the projected amount of revenue reductions allocated to contractors after

repayment of the California Water Fund (see Line 39). Under provisions of the Monterey Amendment, the reduction amount allocated to agricultural contractors is deposited into a trust fund to stabilize payments in water-short years. The urban contractor allocation is applied as a direct reduction in charges.

*Line 16, Federal Payments for Project Operating Costs,* shows federal payments made in accordance with the December 31, 1961, agreement between California and the United States providing for DWR to operate and maintain the San Luis Joint-Use Facilities. According to the January 12, 1972, supplement to the agreement, the Bureau of Reclamation (Reclamation) initially paid 45 percent of operations, maintenance, and replacement (OM&R) costs for those activities. (The percentage does not apply to power costs; Reclamation and DWR each provide their own power to pump water through the joint facilities.)

The percentage paid by Reclamation is periodically reviewed by Reclamation and DWR. The most recent review of the percentage paid by Reclamation was completed in 1987 and resulted in a federal share of 44.09 percent. The amounts in Line 16 are based on the assumption that the federal share will continue at this level for calendar years 2014 through 2023.

*Line 17, Appropriations for Operating Costs Allocated to Recreation,* shows appropriations made under the Davis-Dolwig Act. In passing the Davis-Dolwig Act, the California Legislature declared its intent that, except for funds provided according to Assembly Bill 12 (1966), DWR's budget will include appropriations of monies from the General Fund necessary for enhancement of fish and wildlife and recreation in connection with State water projects.

Annual OMP&R costs allocated to recreation and fish and wildlife enhancement are to be paid by annual appropriations from

the General Fund. Through fiscal year 1982–1983, these appropriations totaled \$16.7 million. No additional appropriations have been made from this fund since fiscal year 1982–1983.

Legislation enacted in 1989 offset a portion of the amount owed to the SWP by the State for costs allocated to recreation and to fish and wildlife enhancement against the amount the SWP owed to the California Water Fund (see line 39). Since the final offset in 1994, DWR has accumulated \$166.7 million in OMP&R costs through fiscal year 2012–2013.

In 2012, the Davis-Dolwig Act was amended to appropriate \$10 million per fiscal year from the Harbors and Watercraft Revolving Fund to cover the OMP&R and capital costs allocated to recreation and fish and wildlife enhancement. Starting in fiscal year 2012–2013, \$7.5 million is being appropriated for on-going OMP&R and capital costs and \$2.5 million is being appropriated to reimburse for past unreimbursed OMP&R and capital costs.

*Line 18, Davis-Grunsky Loan Repayments*, shows the repayments by local agencies of \$70.9 million of loans disbursed as of December 31, 2013. Repayment on any future loans was assumed to be beyond the period covered by the financial analysis.

*Line 19, Revenue Bond Proceeds*, includes bond proceeds classified as special reserves according to the description of revenue bond financing in Line 17 of Table 14-1. Those proceeds, used for capitalized OMP&R costs, revenue bond debt service, and debt service reserves, are not classified as revenue but are included in this line to simplify the financial presentation.

*Line 20, Interest Earnings on Operating Revenues*, includes interest earnings on unexpended proceeds from the sale of general obligation bonds, interest on

operating reserves, and other short-term investment earnings on SWP revenues.

*Line 21, Oroville-Thermalito Payments*, shows payments from Pacific Gas & Electric Company, Southern California Edison, and San Diego Gas & Electric Company for power generation at the Oroville facilities. Those utilities purchased all power generation from Hyatt and Thermalito powerplants before April 1, 1983, in accordance with a power sale contract dated November 29, 1967. The historic amount includes the amounts of final settlement of payments made according to the contract.

*Line 22, Miscellaneous Revenues*, includes all other operating revenues not included in Lines 2 through 21.

*Line 23, Subtotal, Other Revenues*, is the total of Lines 16 through 22.

*Line 24, Total Operating Revenues*, is the total of Lines 13, 14, 15, and 23.

*Line 25, Total Operating Revenues and Capital Resources Revenues*, is the total of Lines 1 and 24.

## Project Expenses

Project expenses include the following:

- operations, maintenance, and power costs;
- deposits to replacement reserves;
- deposits to special reserves;
- capital resources expenditures; and
- debt service.

Revenue bond proceeds earmarked for debt service during construction and the first year's operating expenses are deposited in the Central Valley Water Project Construction Fund and disbursed in accordance with resolutions authorizing the issuance of such bonds.

Water contractor revenues associated with operating costs and debt service attributable to projects financed by revenue bonds are deposited in the Central Valley Water Project Revenue Fund for appropriate disbursement. All other operating revenues are deposited in the California Water Resources Development Bond Fund—Systems Revenue Account and are disbursed in accordance with the following four priorities of use, as specified in the Burns-Porter Act:

- SWP OMP&R costs;
- general obligation bond debt service;
- repayment of expenditures from the California Water Fund; and
- deposits to a reserve for future SWP construction.

Project expenses are presented in Lines 26 through 36 of Table 14-2.

*Line 26, Project Operations, Maintenance, Power, and Replacement Costs*, shows the OMP&R portion of the historical and projected costs presented in Table 14-10.

Table 14-10 and Line 26 of Table 14-2 also include the amounts of the operations and maintenance costs for the federal share of joint facilities and those OMP&R costs allocated to recreation, which are intended to be offset by revenues listed in Lines 16 and 17.

Allowances for cost escalations are included in OMP&R costs through 2013. Allowances for additional long-term price escalations in the future are not included in these estimates, because changes in OMP&R costs do not substantially affect the overall results of the financial analysis. (For the most part, changes in OMP&R costs cause direct offsetting changes in operating revenues.)

Power costs make up the largest component of annual operating expenses for the SWP. Assumptions about future power sources and costs are discussed in Chapter 10,

Power Resources. Line 26 also includes costs associated with power transactions that result in the sale of power not required for the delivery of water.

*Line 27, Deposits to Replacement Reserves*, shows funds set aside as required by contract for replacing existing SWP facilities. By December 31, 2013, a net deposit (which includes returned deposits) of \$86.8 million had been made. \$76.3 million had been spent for replacement costs. The balance of the replacement reserve as of that date was \$31.4 million.

*Line 28, Deposits to Special Reserves Under Revenue Bond Financing*, includes two significant components: special reserve deposits related to revenue bonds and capital resources revenue carryover from prior years used for construction in the current year. Special reserve deposits are the net of several income and expenditure items. Income items related to revenue bonds are:

- proceeds set aside to pay bond interest during construction (capitalized interest);
- proceeds set aside for first year operating costs (capitalized operations and maintenance);
- water contractor payments or bond proceeds set aside for debt service reserves;
- water contractor payments for revenue bond cover requirements; and
- deposits to and withdrawals from operating reserves to meet day-to-day cash flow requirements.

The 1952–2013 column also includes advances to DWR's revolving fund for working funds to purchase mobile equipment and to meet day-to-day operating expenses.

The expenditure items related to revenue bonds include:

- debt service cover payments returned to contractors;

**Table 14-10 Operations, Maintenance, Power, and Replacement Costs, by Facility, Composition, and Purpose (in thousands of dollars)**

- debt service reserve interest payments returned to contractors;
- surplus account funds returned to contractors or applied to meet expenses;
- total capitalized interest paid out; and
- total capitalized operations and maintenance paid out.

Special reserves, reduced over time as reserved amounts, are used for their respective purposes. The amount indicated each year in Line 28 reflects the change from the previous year. A negative number indicates a withdrawal of special reserves to meet expenses, while a positive number indicates a deposit.

*Line 29, Capital Resources Expenditures*, includes the amount of capital resources revenues applied to construction that is shown in Line 35 of Table 14-1. In Table 14-2, these expenditures are funded out of withdrawals from the reserves in Line 28 and do not affect net revenues shown in Line 38.

*Lines 30 and 31, Payment of Debt Service on Bonds Sold through December 31, 2013*, show the total principal and interest payments, respectively, on bonds sold to date. Table 14-11, at the end of this chapter, summarizes payments on general obligation bonds (Series A through Y water bonds), power revenue bonds by project, and water system revenue bonds (Series A through AQ).

*Lines 32 and 33, Payments on Projected Future Water Bonds*, include the projected annual bond debt service amounts for future water revenue bonds included on Lines 23, 25, 27, and 29 of Table 14-1 for the East Branch Enlargement, East Branch Extension, SBA Enlargement, and other water system facilities. Assumptions about the bond debt service on these future bonds are that interest costs for the water revenue bonds average 4.5 percent; and that bonds are to be

repaid by the end of the project repayment period (2035) or sooner, with maturities commencing in the year following the date of sale and with equal annual bond debt service for the principal repayment period.

*Lines 34 and 35, Total Payments of Bond Debt Service*, show the total of principal payments indicated on Lines 30 and 32, and the total of interest repayments indicated on Lines 31 and 33.

*Line 36, Subtotal, Bond Debt Service*, is the total of Lines 34 and 35.

*Line 37, Total Operating Expenses and Bond Debt Service*, is the total of Lines 26, 27, 28, 29, and 36.

*Line 38, Net System Revenues*, shows the annual amounts of revenues remaining after the payment of operating costs and bond debt service costs.

*Line 39, California Water Fund Repayment*, shows the total amount of repayments made to the California Water Fund to reimburse the fund for monies expended for construction of the State Water Resources Development System.

Repayment of the California Water Fund was completed in 1998. The \$508 million includes the \$306 million of repayments shown in Line 39 and the \$202 million of reimbursement that was credited to the SWP as offsets for recreation and fish and wildlife enhancement expenditures.

*Line 40, Revenues Used for Capital Expenditures*, includes the amounts required annually for financing scheduled capital expenditures. Revenues not needed for operating costs or bond debt services are available for financing SWP capital expenditures.

## Future Costs of Water Service

Estimates of future water costs are useful to contractors for short-range and long-range planning of water needs, operations, and budgets. Unit water charges shown in Table 14-12 represent estimated costs of water delivery by service area for calendar years 2015 and 2020. The unit rates include costs of existing and future SWP facilities accounted for in Table 14-1 and Table 14-7. The unit water charges are based on the assumption that in 2015 and 2020, the SWP will be able to deliver the entire amount of water requested by each contractor. The unit water charges included in Table 14-12 are listed both as 2015 dollars and as escalated rates reflecting assumed future inflation of 4.5 percent from 2015 through 2020.

**Table 14-12 Estimated Unit Water Charges for 2015 and 2020, by Service Area (in dollars per acre-foot)**

| Service Area and Charge                                  | 2015              | 2020              |
|--|-------------------|-------------------|
|  | (in 2015 dollars) | (in 2020 dollars) |
| <b>Feather River Area</b>                                |                   |                   |
| Capital; Operations, Maintenance, and Replacement (OM&R) | <b>283</b>        | <b>319</b>        |
| <b>North Bay Area</b>                                    |                   |                   |
| Capital; OM&R  | 413               | 486               |
| Power  | 25                | 36                |
| <b>Total</b>   | <b>438</b>        | <b>522</b>        |
| <b>South Bay Area</b>                                    |                   |                   |
| Capital; OM&R  | 299               | 362               |
| Power  | 59                | 62                |
| <b>Total</b>   | <b>358</b>        | <b>424</b>        |
| <b>Coastal Area</b>                                      |                   |                   |
| Capital; OM&R  | 1,120             | 1,404             |
| Power  | 165               | 176               |
| <b>Total</b>   | <b>1,285</b>      | <b>1,580</b>      |
| <b>San Joaquin Area</b>                                  |                   |                   |
| Capital; OM&R  | 169               | 198               |
| Power  | 31                | 29                |
| <b>Total</b>   | <b>200</b>        | <b>227</b>        |
| <b>Southern California Area</b>                          |                   |                   |
| Capital; OM&R  | 351               | 391               |
| Power  | 189               | 202               |
| <b>Total</b>   | <b>540</b>        | <b>593</b>        |



**Table 14-1 Capital Requirements and Financing, December 31, 2013 (in thousands of dollars)**

| Line Number/Item  | Calendar Year    |                |                |                |                |                |                |                |               |               |               |                  | 1952–2023        |         |
|---|------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|------------------|------------------|---------|
|   | 1952–2013        | 2014           | 2015           | 2016           | 2017           | 2018           | 2019           | 2020           | 2021          | 2022          | 2023          | 2014–2023        |                  |         |
| <b>Capital Requirements</b>                                     |                  |                |                |                |                |                |                |                |               |               |               |                  |                  |         |
| 1. Initial Project Facilities                                   | 2,202,316        | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 2,202,316        |         |
| 2. North Bay Aqueduct   | 112,603          | 3,535          | 1,528          | 30,000         | 55,000         | 109,000        | 161,000        | 89,000         | 19,000        | 0             | 0             | 468,063          | 580,666          |         |
| 3. Delta and Suisun Marsh Facilities                            | 296,906          | 20,718         | 28,162         | 12,500         | 15,000         | 15,000         | 15,000         | 13,500         | 12,500        | 11,500        | 10,000        | 153,880          | 450,786          |         |
| 4. Final 4 Units at Banks Pumping Plant                         | 43,673           | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 43,673           |         |
| 5. Coastal Branch Aqueduct                                      | 511,279          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 511,279          |         |
| 6. West Branch Aqueduct   | 210,566          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 210,566          |         |
| 7. East Branch Enlargement                                      | 461,828          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 461,828          |         |
| 8. East Branch Improvements                                     | 407,381          | 721            | 472            | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 1,193            | 408,574 |
| 9. East Branch Extension  | 262,478          | 72,815         | 36,408         | 1,684          | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 110,907          | 373,385 |
| 10. South Bay Aqueduct  | 256,412          | 6,033          | 6,299          | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 12,332           | 268,744 |
| 11. Power Generation and Transmission Facilities                | 814,650          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 0                | 814,650 |
| 12. Additional Conservation Facilities                          | 164,462          | 3,064          | 3,064          | 3,064          | 3,064          | 3,064          | 3,064          | 3,064          | 3,064         | 3,064         | 3,064         | 30,640           | 195,102          |         |
| 13. Agricultural Drainage Facilities                            | 83,501           | 1,762          | 1,762          | 1,762          | 1,762          | 1,762          | 1,762          | 1,762          | 1,762         | 1,762         | 1,762         | 17,620           | 101,121          |         |
| 14. Other Costs   | 531,669          | 76,919         | 155,597        | 212,038        | 166,221        | 88,554         | 52,808         | 8,790          | 5,220         | 3,340         | 284           | 769,771          | 1,301,440        |         |
| 15. <i>Subtotal, Project Construction Expenditures</i>          | 6,359,725        | 185,567        | 233,290        | 261,048        | 241,047        | 217,380        | 233,634        | 116,116        | 41,546        | 19,666        | 15,110        | 1,564,404        | 7,924,130        |         |
| 16. Davis-Grunsky Act Program Costs                             | 130,000          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 130,000          |         |
| 17. Special Capital Requirements Under Revenue Bond Financing   | 576,370          | 26,926         | 29,852         | 30,103         | 29,325         | 25,300         | 27,438         | 16,130         | 4,200         | 1,900         | 1,278         | 192,452          | 768,822          |         |
| <b>18. Total Capital Requirements</b>                           | <b>7,066,095</b> | <b>212,493</b> | <b>263,142</b> | <b>291,151</b> | <b>270,372</b> | <b>242,680</b> | <b>261,072</b> | <b>132,246</b> | <b>45,746</b> | <b>21,566</b> | <b>16,388</b> | <b>1,756,856</b> | <b>8,822,952</b> |         |
| 19. Power Facilities Capital Requirements                       | 814,650          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 814,650          |         |
| 20. Water Facilities Capital Requirements                       | 6,251,445        | 212,493        | 263,142        | 291,151        | 270,372        | 242,680        | 261,072        | 132,246        | 45,746        | 21,566        | 16,388        | 1,756,856        | 8,008,301        |         |
| <b>Financing of Capital Requirements</b>                        |                  |                |                |                |                |                |                |                |               |               |               |                  |                  |         |
| <b>Power Facilities Revenue Bond Proceeds</b>                   |                  |                |                |                |                |                |                |                |               |               |               |                  |                  |         |
| 21. Power Facilities Revenue Bonds through Series H             | 1,162,458        | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 1,162,458        |         |
| <b>Water System Revenue Bond Proceeds</b>                       |                  |                |                |                |                |                |                |                |               |               |               |                  |                  |         |
| 22. East Branch Enlargement, Current Bonds                      | 473,451          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 473,451          |         |
| 23. East Branch Enlargement, Future Bonds                       | 0                | 9,644          | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 9,644            |         |
| 24. East Branch Extension, Current Bonds                        | 339,545          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 339,545          |         |
| 25. East Branch Extension, Future Bonds                         | 0                | 6,000          | 40,453         | 1,871          | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 48,324           |         |
| 26. South Bay Aqueduct Enlargement, Current Bonds               | 201,283          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 201,283          |         |
| 27. South Bay Aqueduct Enlargement, Future Bonds                | 0                | 5,357          | 4,956          | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 10,313           |         |
| 28. Water System Facilities, Current Bonds                      | 1,879,187        | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 1,879,187        |         |
| 29. Water System Facilities, Future Bonds                       | 0                | 278,296        | 257,100        | 304,000        | 287,000        | 253,000        | 278,000        | 161,300        | 42,000        | 19,000        | 12,783        | 1,892,479        | 1,892,479        |         |
| 30. <i>Subtotal, Water System Revenue Bonds</i>                 | 2,893,467        | 299,297        | 302,509        | 305,871        | 287,000        | 253,000        | 278,000        | 161,300        | 42,000        | 19,000        | 12,783        | 1,960,760        | 4,854,227        |         |
| <b>Other Capital Financing</b>                                  |                  |                |                |                |                |                |                |                |               |               |               |                  |                  |         |
| 31. Initial Project Facilities Bond Proceeds                    | 1,452,452        | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 1,452,452        |         |
| 32. Davis-Grunsky Act Program Bond Proceeds                     | 130,000          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 130,000          |         |
| 33. Application of CA Water Fund Monies (Tideland Oil Revenues) | 508,056          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 508,056          |         |
| 34. Interim Financing   | 248,904          | (91,304)       | (43,867)       | (19,220)       | (21,128)       | (14,820)       | (21,428)       | (33,554)       | (754)         | (1,934)       | (895)         | (248,904)        | 0                |         |
| 35. Application of Capital Resources Revenues to Construction   | 566,269          | 0              | 0              | 0              | 0              | 0              | 0              | 0              | 0             | 0             | 0             | 0                | 566,269          |         |
| 36. Revenue Transfers Applied                                   | 104,490          | 4,500          | 4,500          | 4,500          | 4,500          | 4,500          | 4,500          | 4,500          | 4,500         | 4,500         | 4,500         | 45,000           | 149,490          |         |
| 37. <i>Subtotal, Other Capital Financing</i>                    | 3,010,171        | (86,804)       | (39,367)       | (14,720)       | (16,628)       | (10,320)       | (16,928)       | (29,054)       | 3,746         | 2,566         | 3,605         | (203,904)        | 2,806,267        |         |
| <b>38. Total Financing of Capital Requirements</b>              | <b>7,066,095</b> | <b>212,493</b> | <b>263,142</b> | <b>291,151</b> | <b>270,372</b> | <b>242,680</b> | <b>261,072</b> | <b>132,246</b> | <b>45,746</b> | <b>21,566</b> | <b>16,388</b> | <b>1,756,856</b> | <b>8,822,952</b> |         |

**Table 14-2 State Water Project Revenues and Expenditures, December 31, 2013 (in thousands of dollars)**

| Line Number/Item   | Calendar Year     |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
|--|-------------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
|  | 1952–2013         | 2014           | 2015             | 2016             | 2017             | 2018             | 2019             | 2020             | 2021             | 2022             | 2023             | 2014–2023         | 1952–2023         |
| <b>PROJECT REVENUES</b>  |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 1. Capital Resources Revenues  | 814,701           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 814,701           |
| <b>Water Contractor Payments</b>   |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 2. Transportation Capital  | 4,660,905         | 153,997        | 156,160          | 159,217          | 156,429          | 149,029          | 142,060          | 134,195          | 123,668          | 115,561          | 112,903          | 1,403,218         | 6,064,123         |
| 3. Transportation Minimum  | 4,226,318         | 256,034        | 271,551          | 272,822          | 266,743          | 269,411          | 272,105          | 274,826          | 277,574          | 280,350          | 283,154          | 2,724,571         | 6,950,889         |
| 4. Transportation Variable   | 5,918,043         | 129,160        | 303,983          | 307,407          | 313,265          | 331,856          | 308,897          | 316,733          | 319,920          | 320,016          | 325,104          | 2,976,340         | 8,894,383         |
| 5. Off-Aqueduct Power Facilities   | 3,144,843         | 43,856         | 21,333           | 9,918            | 9,729            | 3,915            | 3,905            | 4,239            | 6,193            | 5,866            | 4,305            | 113,259           | 3,258,101         |
| 6. Delta Water Charge  | 3,181,442         | 60,297         | 249,669          | 249,675          | 249,675          | 249,675          | 249,675          | 249,675          | 249,675          | 249,675          | 249,675          | 2,307,369         | 5,488,812         |
| 7. East Branch Enlargement   | 943,595           | 41,916         | 47,576           | 46,049           | 47,405           | 46,451           | 46,517           | 45,627           | 46,006           | 44,573           | 38,076           | 450,196           | 1,393,791         |
| 8. East Branch Extension   | 156,519           | 30,088         | 30,079           | 34,166           | 34,119           | 34,154           | 34,181           | 34,220           | 34,257           | 34,288           | 34,314           | 333,866           | 490,385           |
| 9. Coastal Extension   | 51,468            | 4,265          | 4,623            | 4,611            | 4,364            | 3,363            | 2,552            | 3,549            | 3,674            | 4,573            | 3,449            | 39,023            | 90,491            |
| 10. South Bay Aqueduct Improvements and Enlargement                              | 67,124            | 18,380         | 19,942           | 20,439           | 19,391           | 19,404           | 19,383           | 19,383           | 19,389           | 19,424           | 19,609           | 194,744           | 261,868           |
| 11. Tehachapi East Afterbay  | 33,533            | 6,376          | 6,906            | 6,902            | 6,390            | 6,376            | 6,381            | 6,376            | 6,392            | 6,410            | 6,501            | 65,010            | 98,543            |
| 12. Water Revenue Bond Surcharge   | 686,471           | 78,241         | 80,465           | 81,086           | 80,139           | 72,065           | 75,723           | 71,347           | 70,869           | 68,548           | 68,298           | 746,781           | 1,433,252         |
| 13. <i>Subtotal, Water Contractor Payments</i>                                   | 21,985,718        | 822,612        | 1,192,288        | 1,192,293        | 1,187,650        | 1,185,698        | 1,161,377        | 1,160,171        | 1,157,618        | 1,149,284        | 1,145,388        | 11,354,378        | 33,340,096        |
| 14. Revenue Bond Cover Adjustments   | (884,571)         | (45,375)       | (51,241)         | (52,067)         | (51,521)         | (47,252)         | (48,755)         | (47,025)         | (48,115)         | (46,438)         | (45,763)         | (483,554)         | (1,368,125)       |
| 15. Rate Management Adjustments  | (461,620)         | (40,470)       | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (40,470)         | (404,700)         | (866,320)         |
| <b>Other Revenues</b>  |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 16. Federal Payments for Project Operating Costs                                 | 389,191           | 21,000         | 21,000           | 21,000           | 21,000           | 21,000           | 21,000           | 21,000           | 21,000           | 21,000           | 21,000           | 210,000           | 599,191           |
| 17. Appropriations for Operating Costs Allocated to Recreation                   | 28,468            | 10,000         | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           | 10,000           | 100,000           | 128,468           |
| 18. Davis-Grunsky Loan Repayments  | 73,657            | 1,498          | 1,285            | 1,223            | 1,218            | 1,027            | 960              | 889              | 882              | 882              | 867              | 10,730            | 84,387            |
| 19. Revenue Bond Proceeds  | 652,977           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 652,977           |
| 20. Interest Earnings on Operating Revenues                                      | 576,594           | 520            | 520              | 520              | 520              | 520              | 700              | 700              | 700              | 700              | 700              | 6,100             | 582,694           |
| 21. Oroville-Thermalito Payments   | 249,279           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 249,279           |
| 22. Miscellaneous Revenues   | 184,264           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 184,264           |
| 23. <i>Subtotal, Other Revenues</i>  | 2,122,815         | 33,018         | 32,805           | 32,743           | 32,738           | 32,547           | 32,660           | 32,589           | 32,582           | 32,582           | 32,567           | 326,830           | 2,449,645         |
| <b>24. Total Operating Revenues</b>  | <b>22,854,808</b> | <b>769,784</b> | <b>1,133,382</b> | <b>1,132,498</b> | <b>1,128,397</b> | <b>1,130,523</b> | <b>1,104,812</b> | <b>1,105,265</b> | <b>1,101,615</b> | <b>1,094,957</b> | <b>1,091,721</b> | <b>10,792,955</b> | <b>33,647,762</b> |
| <b>25. Total Operating Revenues and Capital Resources Revenues</b>               | <b>23,669,509</b> | <b>769,784</b> | <b>1,133,382</b> | <b>1,132,498</b> | <b>1,128,397</b> | <b>1,130,523</b> | <b>1,104,812</b> | <b>1,105,265</b> | <b>1,101,615</b> | <b>1,094,957</b> | <b>1,091,721</b> | <b>10,792,955</b> | <b>34,462,463</b> |
| <b>PROJECT EXPENSES</b>  |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 26. Project Operations, Maintenance, Power, and Replacement Costs                | 13,424,855        | 557,326        | 744,965          | 772,532          | 774,569          | 787,853          | 748,269          | 769,093          | 773,381          | 782,382          | 776,853          | 7,487,223         | 20,912,078        |
| 27. Deposits to Replacement Reserves Under Revenue Bond Financing                | 86,794            | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 86,794            |
| 28. Deposits to Special Reserves   | 726,168           | (116,297)      | 66,032           | 19,674           | 4,060            | 3,932            | (619)            | (41,109)         | (50,607)         | (66,423)         | (41,351)         | (222,709)         | 503,459           |
| 29. Capital Resources Expenditures   | 686,932           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 686,932           |
| <b>Payments of Bond Debt Service</b>   |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 30. Principal Repayments on Bonds Sold Through December 31, 2013 (Current Bonds) | 3,152,113         | 173,549        | 181,189          | 182,942          | 175,854          | 148,843          | 151,778          | 153,747          | 146,906          | 149,217          | 130,951          | 1,594,976         | 4,747,089         |
| 31. Interest on Bonds Sold Through December 31, 2013 (Current Bonds)             | 6,127,122         | 114,129        | 106,333          | 99,232           | 91,507           | 83,886           | 77,765           | 71,166           | 64,550           | 58,286           | 51,812           | 818,666           | 6,945,788         |
| 32. Future Water Bond Principal Repayments                                       | 0                 | 11,215         | 9,888            | 19,877           | 31,193           | 43,178           | 55,237           | 69,846           | 80,632           | 86,357           | 91,225           | 498,648           | 498,648           |
| 33. Future Water Bond Interest Payments  | 0                 | 15,363         | 10,475           | 23,741           | 36,714           | 48,331           | 57,883           | 68,021           | 72,253           | 70,638           | 67,732           | 471,151           | 471,151           |
| <b>34. Total Principal</b>   | <b>3,152,113</b>  | <b>184,764</b> | <b>191,077</b>   | <b>202,819</b>   | <b>207,047</b>   | <b>192,021</b>   | <b>207,015</b>   | <b>223,593</b>   | <b>227,538</b>   | <b>235,574</b>   | <b>222,176</b>   | <b>2,093,624</b>  | <b>5,245,737</b>  |
| <b>35. Total Interest</b>  | <b>6,127,122</b>  | <b>129,492</b> | <b>116,808</b>   | <b>122,973</b>   | <b>128,221</b>   | <b>132,217</b>   | <b>135,648</b>   | <b>139,187</b>   | <b>136,803</b>   | <b>128,924</b>   | <b>119,544</b>   | <b>1,289,817</b>  | <b>7,416,939</b>  |
| <b>36. Subtotal, Bond Debt Service</b>   | <b>8,972,619</b>  | <b>314,256</b> | <b>307,885</b>   | <b>325,792</b>   | <b>335,268</b>   | <b>324,238</b>   | <b>342,663</b>   | <b>362,780</b>   | <b>364,341</b>   | <b>364,498</b>   | <b>341,720</b>   | <b>3,383,441</b>  | <b>12,356,060</b> |
| <b>NET REVENUES</b>  |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| <b>37. Total Operating Expenses and Bond Debt Service</b>                        | <b>23,258,529</b> | <b>755,284</b> | <b>1,118,882</b> | <b>1,117,998</b> | <b>1,113,897</b> | <b>1,116,023</b> | <b>1,090,312</b> | <b>1,090,765</b> | <b>1,087,115</b> | <b>1,080,457</b> | <b>1,077,221</b> | <b>10,647,955</b> | <b>33,906,484</b> |
| 38. Net System Revenues  | 410,979           | 14,500         | 14,500           | 14,500           | 14,500           | 14,500           | 14,500           | 14,500           | 14,500           | 14,500           | 14,500           | 145,000           | 555,979           |
| <b>Application of Net System Revenues</b>  |                   |                |                  |                  |                  |                  |                  |                  |                  |                  |                  |                   |                   |
| 39. California Water Fund Repayment  | 305,765           | 0              | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                | 0                 | 305,765           |
| 40. Revenues Used for Capital Expenditures                                       | 108,990           | 4,500          | 4,500            | 4,500            | 4,500            | 4,500            | 4,500            | 4,500            | 4,500            | 4,500            | 4,500            | 45,000            | 153,990           |

Table 14-11 Annual Debt Service on Bonds Sold through December 31, 2013 (in thousands of dollars)

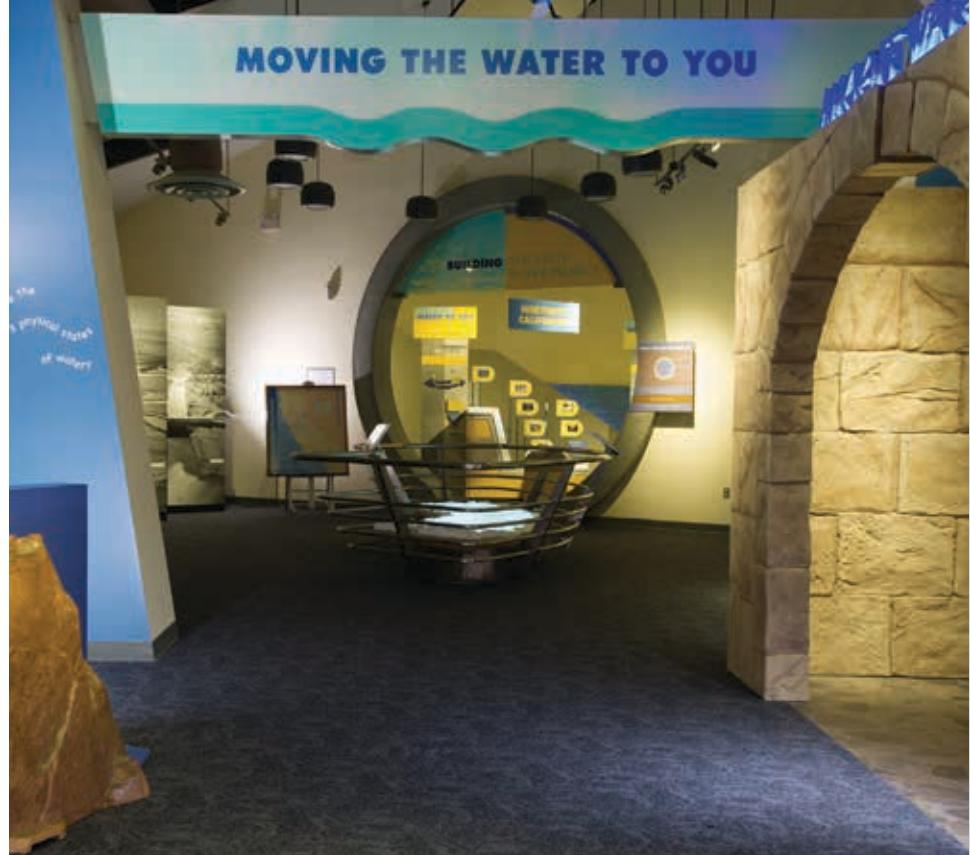
| Calendar Year | Series A through Y Water Bonds |          | Oroville Revenue Bonds <sup>a</sup> |          | Pyramid Project Revenue Bonds <sup>b</sup> |          | Alamo Project Revenue Bonds <sup>b</sup> |          | Small Hydro Project Revenue Bonds <sup>a</sup> |          | Water System Facilities Water System Revenue Bonds <sup>a</sup> |          | Subtotal  |          | Devil Canyon-Castaic Project Revenue Bonds |          | Reid Gardner Project Revenue Bonds <sup>b,c</sup> |          | South Geysers Project Revenue Bonds <sup>b</sup> |          | Bottle Rock Project Revenue Bonds <sup>b</sup> |          | East Branch Enlargement Project Water System Revenue Bonds <sup>c</sup> |          | Coastal Extension Facilities Water System Revenue Bonds |          | East Branch Extension Facilities Water System Revenue Bonds <sup>c</sup> |          | South Bay Enlargement Facilities Water System Revenue Bonds <sup>c</sup> |          | Tehachapi East Afterbay Facilities Water System Revenue Bonds <sup>c</sup> |          | Grand Total |        |        |        |         |        |         |         |
|---------------|--------------------------------|----------|-------------------------------------|----------|--|----------|--|----------|--|----------|---|----------|-----------|----------|--|----------|---|----------|--|----------|--|----------|---|----------|---|----------|--|----------|--|----------|--|----------|-------------|--------|--------|--------|---------|--------|---------|---------|
|               | Principal                      | Interest | Principal                           | Interest | Principal                                  | Interest | Principal                                | Interest | Principal                                      | Interest | Principal   | Interest | Principal | Interest | Principal                                  | Interest | Principal   | Interest | Principal  | Interest | Principal                                      | Interest | Principal   | Interest | Principal   | Interest | Principal  | Interest | Principal  | Interest | Principal  | Interest |             |        |        |        |         |        |         |         |
|               |                                |          |                                     |          |  |          |  |          |  |          |   |          |           |          |  |          |   |          |  |          |  |          |   |          |   |          |  |          |  |          |  |          |             |        |        |        |         |        |         |         |
| 1964          | 0                              | 3,333    | 0                                   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 3,333                                      | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 3,333    |             |        |        |        |         |        |         |         |
| 1965          | 0                              | 11,114   | 0                                   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 11,114                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 11,114   |             |        |        |        |         |        |         |         |
| 1966          | 0                              | 18,764   | 0                                   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 18,764                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 18,764   |             |        |        |        |         |        |         |         |
| 1967          | 0                              | 26,911   | 0                                   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 26,911                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 26,911   |             |        |        |        |         |        |         |         |
| 1968          | 0                              | 37,761   | 0                                   | 3,876    | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 41,637                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 41,637   |             |        |        |        |         |        |         |         |
| 1969          | 0                              | 47,460   | 0                                   | 10,448   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 57,908                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 57,908   |             |        |        |        |         |        |         |         |
| 1970          | 0                              | 53,290   | 0                                   | 13,145   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 66,435                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 66,435   |             |        |        |        |         |        |         |         |
| 1971          | 0                              | 63,035   | 0                                   | 13,145   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 76,180                                     | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 76,180   |             |        |        |        |         |        |         |         |
| 1972          | 0                              | 69,149   | 1,260                               | 13,112   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 1,260                                      | 82,261   | 0   | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 1,260    | 82,261      |        |        |        |         |        |         |         |
| 1973          | 1,200                          | 69,347   | 1,330                               | 13,042   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 2,530                                      | 82,389   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 2,530       | 90,097 |        |        |         |        |         |         |
| 1974          | 3,000                          | 69,533   | 1,400                               | 12,969   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 4,400                                      | 82,502   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 4,400       | 90,210 |        |        |         |        |         |         |
| 1975          | 5,000                          | 69,366   | 1,475                               | 12,893   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 6,475                                      | 82,259   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 6,475       | 89,967 |        |        |         |        |         |         |
| 1976          | 7,000                          | 69,657   | 1,555                               | 12,811   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 8,555                                      | 82,468   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 8,555       | 90,176 |        |        |         |        |         |         |
| 1977          | 10,200                         | 69,298   | 1,635                               | 12,727   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 11,835                                     | 82,025   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 11,835 | 89,733 |        |         |        |         |         |
| 1978          | 12,700                         | 69,286   | 5,775                               | 12,537   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 18,475                                     | 81,823   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 18,475 | 89,531 |        |         |        |         |         |
| 1979          | 13,650                         | 68,660   | 11,585                              | 12,275   | 0  | 0        | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 25,235                                     | 80,935   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 25,235 | 88,643 |        |         |        |         |         |
| 1980          | 16,050                         | 67,941   | 3,265                               | 11,739   | 0  | 7,900    | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 19,315                                     | 87,580   | 0   | 7,708    | 0  | 0        | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 19,315 | 95,288 |        |         |        |         |         |
| 1981          | 18,050                         | 67,078   | 4,885                               | 11,444   | 0  | 7,292    | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 22,935                                     | 85,814   | 0   | 7,708    | 0  | 5,312    | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 0      | 0      | 22,935 | 98,834  |        |         |         |
| 1982          | 19,250                         | 66,130   | 17,920                              | 10,968   | 0  | 7,292    | 0  | 0        | 0  | 0        | 0   | 0        | 0         | 0        | 37,170                                     | 84,390   | 0   | 7,708    | 0  | 14,347   | 0  | 0        | 0   | 0        | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 0      | 0      | 37,170 | 106,445 |        |         |         |
| 1983          | 20,520                         | 65,111   | 21,110                              | 10,147   | 0  | 7,292    | 0  | 2,449    | 0  | 3,727    | 0   | 0        | 0         | 0        | 41,630                                     | 88,726   | 900   | 7,708    | 0  | 35,719   | 0  | 4,777    | 0   | 6,017    | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 0      | 0      | 0      | 0       | 42,530 | 142,947 |         |
| 1984          | 21,785                         | 64,036   | 10,005                              | 9,013    | 640  | 7,292    | 0  | 4,198    | 0  | 3,727    | 0   | 0        | 0         | 0        | 32,430                                     | 88,266   | 955   | 7,647    | 0  | 35,719   | 0  | 5,647    | 0   | 10,315   | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 0      | 0      | 0      | 0       | 0      | 33,385  | 147,594 |
| 1985          | 22,555                         | 62,892   | 12,700                              | 8,628    | 675  | 7,238    | 0  | 4,198    | 0  | 3,727    | 0   | 0        | 0         | 0        | 35,930                                     | 86,683   | 1,010   | 7,583    | 9,425  | 27,209   | 0  | 5,647    | 0   | 10,315   | 0   | 0        | 0  | 0        | 0  | 0        | 0  | 0        | 0           | 0      | 0      | 0      | 0       | 46,365 | 137,437 |         |
| 1986          | 23,830                         | 61,705   | 11,435                              | 7,859    | 715  | 7,377    | 0  | 4,263    | 0  | 3,537    | 0   | 0        | 0         | 0        | 35,980                                     | 84,741   | 1,070   | 7,515    | 3,805  | 32,882   | 0  | 5,516    | 1,240   | 10,315   | 0   |          |  |          |  |          |  |          |             |        |        |        |         |        |         |         |

Table 14-11 Annual Debt Service on Bonds Sold through December 31, 2013 (in thousands of dollars)

(continued)

| Calendar Year | Series A through Y Water Bonds |                  | Oroville Revenue Bonds <sup>a</sup> |                | Pyramid Project Revenue Bonds <sup>b</sup> |                | Alamo Project Revenue Bonds <sup>b</sup> |                | Small Hydro Project Revenue Bonds <sup>b</sup> |               | Water System Facilities Water System Revenue Bonds <sup>c</sup> |                  | Subtotal         |                  | Devil Canyon-Castaic Project Revenue Bonds |                | Reid Gardner Project Revenue Bonds <sup>a,c</sup> |                | South Geysers Project Revenue Bonds <sup>b</sup> |                | Bottle Rock Project Revenue Bonds <sup>b</sup> |                | East Branch Enlargement Project Water System Revenue Bonds <sup>c</sup> |                | Coastal Extension Facilities Water System Revenue Bonds |               | East Branch Extension Facilities Water System Revenue Bonds <sup>c</sup> |                | South Bay Enlargement Facilities Water System Revenue Bonds <sup>c</sup> |                | Tehachapi East Afterbay Facilities Water System Revenue Bonds <sup>c</sup> |               | Grand Total      |                  |         |        |
|---------------|--------------------------------|------------------|-------------------------------------|----------------|--|----------------|--|----------------|--|---------------|---|------------------|------------------|------------------|--|----------------|---|----------------|--|----------------|--|----------------|---|----------------|---|---------------|--|----------------|--|----------------|--|---------------|------------------|------------------|---------|--------|
|               | Principal                      | Interest         | Principal                           | Interest       | Principal                                  | Interest       | Principal                                | Interest       | Principal                                      | Interest      | Principal   | Interest         | Principal        | Interest         | Principal                                  | Interest       | Principal   | Interest       | Principal  | Interest       | Principal                                      | Interest       | Principal   | Interest       | Principal   | Interest      | Principal  | Interest       | Principal  | Interest       |  |               |                  |                  |         |        |
|               |                                |                  |                                     |                |  |                |  |                |  |               |   |                  |                  |                  |  |                |   |                |  |                |  |                |   |                |   |               |  |                |  |                |  |               |                  |                  |         |        |
| 2018          | 25,435                         | 3,011            | 0                                   | 0              | 4,870                                      | 1,092          | 2,866                                    | 730            | 2,516  | 541           | 64,843  | 42,343           | 100,530          | 47,717           | 6,910                                      | 2,045          | 104   | 277            | 720  | 215            | 1,246  | 549            | 19,120  | 9,711          | 1,680   | 1,010         | 8,562  | 12,497         | 7,276  | 7,501          | 2,715  | 2,379         | 148,863          | 83,901           |         |        |
| 2019          | 16,975                         | 1,804            | 0                                   | 0              | 4,537                                      | 890            | 2,766                                    | 616            | 2,184  | 430           | 73,837  | 39,928           | 100,299          | 43,668           | 7,325                                      | 1,682          | 109   | 273            | 762  | 191            | 1,266  | 503            | 21,610  | 8,935          | 1,094   | 947           | 8,914  | 12,140         | 7,574  | 7,187          | 2,845  | 2,253         | 151,798          | 77,779           |         |        |
| 2020          | 17,405                         | 956              | 0                                   | 0              | 5,555                                      | 687            | 3,361                                    | 498            | 2,797  | 323           | 69,487  | 36,936           | 98,605           | 39,400           | 7,765                                      | 1,298          | 113   | 268            | 891  | 165            | 1,481  | 455            | 22,748  | 8,007          | 1,927   | 912           | 9,333  | 11,725         | 7,926  | 6,835          | 2,980  | 2,114         | 153,769          | 71,179           |         |        |
| 2021          | 8,595                          | 318              | 0                                   | 0              | 2,648                                      | 449            | 1,692                                    | 358            | 1,153  | 197           | 74,436  | 33,983           | 88,524           | 35,305           | 8,230                                      | 890            | 961   | 262            | 929  | 131            | 2,255  | 396            | 22,720  | 7,015          | 2,091   | 848           | 9,778  | 11,285         | 8,303  | 6,462          | 3,138  | 1,968         | 146,929          | 64,562           |         |        |
| 2022          | 1,885                          | 60               | 0                                   | 0              | 5,324                                      | 343            | 5,062                                    | 293            | 1,208  | 146           | 71,463  | 30,893           | 84,942           | 31,735           | 8,725                                      | 458            | 1,008   | 215            | 856  | 95             | 2,202  | 299            | 26,381  | 5,989          | 2,872   | 787           | 10,230   | 10,829         | 8,718  | 6,075          | 3,306  | 1,815         | 149,240          | 58,297           |         |        |
| 2023          | 85                             | 7                | 0                                   | 0              | 1,028                                      | 96             | 552                                      | 55             | 638  | 91            | 78,805  | 27,881           | 81,108           | 28,130           | 0  | 0              | 558   | 166            | 557  | 59             | 1,887  | 196            | 21,262  | 4,927          | 2,073   | 686           | 10,711   | 10,342         | 9,279  | 5,663          | 3,540  | 1,653         | 130,975          | 51,822           |         |        |
| 2024          | 35                             | 3                | 0                                   | 0              | 664  | 51             | 381                                      | 31             | 429  | 61            | 79,761  | 24,182           | 81,270           | 24,328           | 0  | 0              | 349   | 138            | 442  | 32             | 1,501  | 93             | 21,346  | 3,969          | 2,156   | 602           | 11,237   | 9,822          | 9,728  | 5,221          | 3,711  | 1,484         | 131,740          | 45,689           |         |        |
| 2025          | 0                              | 0                | 0                                   | 0              | 149  | 23             | 106                                      | 16             | 171  | 41            | 75,481  | 20,340           | 75,907           | 20,420           | 0  | 0              | 140   | 120            | 62   | 10             | 61   | 9              | 26,177  | 2,946          | 1,729   | 513           | 11,771   | 9,292          | 10,021   | 4,749          | 3,797  | 1,303         | 129,665          | 39,362           |         |        |
| 2026          | 0                              | 0                | 0                                   | 0              | 154  | 18             | 110                                      | 13             | 178  | 34            | 73,053  | 16,839           | 73,495           | 16,904           | 0  | 0              | 254   | 113            | 64   | 8              | 63   | 7              | 9,875   | 1,680          | 1,808   | 437           | 15,096   | 8,738          | 11,546   | 4,260          | 4,609  | 1,116         | 116,810          | 33,263           |         |        |
| 2027          | 0                              | 0                | 0                                   | 0              | 397  | 13             | 283                                      | 9              | 264  | 26            | 84,029  | 13,452           | 84,973           | 13,500           | 0  | 0              | 328   | 100            | 166  | 6              | 162  | 5              | 9,243   | 1,222          | 1,785   | 356           | 19,187   | 7,987          | 12,682   | 3,692          | 5,167  | 888           | 133,693          | 27,756           |         |        |
| 2028          | 0                              | 0                | 0                                   | 0              | 0  | 0              | 0  | 0              | 0  | 0             | 140   | 15               | 68,167           | 9,650            | 68,307                                     | 9,665          | 0   | 0              | 443  | 84             | 0  | 0              | 0   | 0              | 9,972   | 793           | 2,815  | 289            | 25,140   | 7,031          | 14,233   | 3,064         | 5,972            | 632              | 126,882 | 21,558 |
| 2029          | 0                              | 0                | 0                                   | 0              | 0  | 0              | 0  | 0              | 0  | 0             | 149   | 8                | 77,475           | 6,312            | 77,624                                     | 6,320          | 0   | 0              | 462  | 61             | 0  | 0              | 0   | 0              | 2,935   | 376           | 2,976  | 148            | 26,226   | 5,782          | 14,903   | 2,361         | 6,258            | 336              | 131,384 | 15,384 |
| <b>Total</b>  | <b>1,582,400</b>               | <b>2,386,523</b> | <b>244,995</b>                      | <b>246,522</b> | <b>107,838</b>                             | <b>195,867</b> | <b>60,951</b>                            | <b>101,071</b> | <b>49,141</b>                                  | <b>81,995</b> | <b>1,717,866</b>  | <b>1,830,112</b> | <b>3,763,191</b> | <b>4,842,090</b> | <b>139,165</b>                             | <b>283,872</b> | <b>448,356</b>                                    | <b>570,706</b> | <b>74,515</b>                                    | <b>115,846</b> | <b>156,407</b>                                 | <b>227,974</b> | <b>480,494</b>  | <b>611,411</b> | <b>44,064</b>   | <b>46,481</b> | <b>333,842</b>   | <b>274,490</b> | <b>203,494</b>   | <b>141,793</b> | <b>69,391</b>  | <b>46,590</b> | <b>5,712,919</b> | <b>7,161,253</b> |         |        |

<sup>a</sup>Principal and interest schedule adjusted to reflect early redemption of bonds.<sup>b</sup>Allocated portions of Power Facilities Revenue Bonds and Water System Revenue Bonds.<sup>c</sup>Interest includes a minimum fee for Water System Revenue Bonds Series AB.



## Chapter 15

### SWP Education and Information

*An educational water display at Vista del Lago Visitors Center.*

## Significant Events in 2013

The last snow survey of the season on May 2 reported that water content in California's snowpack was 16 percent of normal. The State Water Project (SWP) allocated 35 percent of its contractors' requested amounts, a drop from the 65 percent in 2012.

In May, the Department of Water Resources (DWR) began renegotiating the extension and amendment of water supply contracts with the SWP contractors that were signed in the 1960s. The negotiations were done in public and continued throughout the year.

In December 2013, DWR released the *State Water Project Draft Delivery Reliability Report 2013*.

The Department of Water Resources (DWR) Public Affairs Office (PAO) produces and distributes news and program information describing California's water resources, and DWR's mission, programs, and activities. PAO disseminates information by way of news releases, interviews, Internet posts, and both printed and electronic publications. Other avenues include artwork, films, graphics, photography, public meetings, social media, and special events.

## News Topics

Selected highlights below provide examples of PAO's 2013 outreach efforts and news media responses related to DWR's water policy, programs, and activities.

### Snow Surveys

DWR conducts five monthly Sierra snow surveys, ending in late April or early May when snowpack typically is at its peak. By analyzing snow depth and water content, experts gauge the Sierra snowpack's potential for producing snowmelt runoff. Typically, Sierra snowpack produces about one-third of California's annual water supply.

DWR promotes media coverage of its monthly snow surveys to help inform water agency managers and educate the public about snowpack conditions and water supply prospects. In 2013, the monthly surveys were closely covered due to the possibility that water year 2014 could be a third consecutive dry year following water year 2012, which was the 25th driest year in terms of statewide runoff in records going back 112 years.

On May 2, the fifth and final DWR snow survey found that the statewide snowpack water content was 17 percent of average. One year earlier, statewide snowpack water content was 40 percent of average.

### *Airborne Snow Observatory Program*

During April, following the driest January–March period on record for portions of California, DWR conducted aerial surveys of the snowpack. The Airborne Snow Observatory Program is a 3-year pilot project and partnership between DWR and the National Aeronautics and Space Administration's Jet Propulsion Laboratory. The aerial surveys began with the Tuolumne River Basin and were conducted with a plane equipped with Light Detection and Ranging (LIDAR) technology to measure the snowpack's depth and conduct spectrometer readings to gauge the snow's reflectivity. This information, when combined with data from the traditional manual snow surveys and electronic sensors, provides a better estimate of California's water supply.

### State Water Project Allocations

DWR set the State Water Project (SWP) final allocation figure at 35 percent of SWP water contractors' requests for deliveries. In 2012, the final allocation was 65 percent.

In 2011, SWP final allocation was 80 percent, up from an initial allocation of 25 percent. The final allocation was 50 percent in 2010, 40 percent in 2009, 35 percent in 2008, and 60 percent in 2007. The most recent 100 percent allocation occurred in 2006. Meeting 100 percent allocation is not easy to achieve, even in wet years, due to Delta pumping restrictions to protect threatened and endangered fish.

## Contract Extension Program

On May 1, 2013, DWR met with SWP contractors and the public to begin negotiating the extension of the water supply contracts. To ensure continued affordability of debt service to SWP contractors, it is necessary to extend the termination date. The extension will allow DWR to continue to sell bonds with 30-year terms, ensuring the debt service on these bonds remains affordable to SWP contractors and their water customers.

Announcements and information about the negotiation sessions are available on the Water Supply Contract Program webpage on DWR's website

## Bay Delta Conservation Plan

In August 2013, DWR announced changes to the proposed Bay Delta Conservation Plan (BDCP) water conveyance system in the Sacramento-San Joaquin Delta that would shrink the total permanent footprint of the project by 50 percent, shift more than 400 acres of permanent and temporary construction from private to public lands.

The BDCP is a 7-year effort by federal and State agencies and other stakeholders to stabilize water deliveries from the Delta while enhancing the Delta's ecosystem.

## Flood Preparedness

In early November, during California Flood Preparedness Week, California was inducted into the national Silver Jackets program at a letter-signing ceremony in Sacramento. Silver Jackets teams are State-led interagency groups that work together to focus on State priorities to reduce flood risk through increased flood risk communication and improved emergency response processes. Through the Silver Jackets program, federal, State, and local agencies can coordinate activities that increase public awareness of flood risk. DWR is the lead State agency for the Silver Jackets program in California.

PAO publicized the April 3 Public Review Draft release of *California's Flood Future: Recommendations for Managing the State's Flood Risk*, the comprehensive State/federal report that suggests recommended future actions to improve flood management statewide. This report was developed by DWR and the U.S. Army Corps of Engineers to provide a look at statewide exposure to flood risk and to identify and address the barriers to improved flood management. The final version of this report was released in November 2013, during California Flood Preparedness Week.

During the same week in November, PAO publicized DWR-directed flood fight training on November 5, to teach emergency response procedures utilized during a flood event.

## Drought Management Team

During December 2013, in anticipation of a drought proclamation and in an effort to prepare for and reduce potential impacts of what was expected to be a dry 2014, DWR announced a new drought management team.

To address the drought, DWR began streamlining and improving its processes and guidance for water transfers, as transfers were identified as a key drought response tool. Additionally, drought preparedness workshops were held to inform agricultural users of statewide water conditions and available drought preparedness measures.

## SWP Delivery Reliability Report

In December 2013, DWR released *The State Water Project Draft Delivery Reliability Report 2013* for public review. It updated the estimated water delivery capability of the SWP for current 2013 conditions and for projected conditions in 2033. The estimates include the potential effects of climate change and the anticipated changes in Sacramento River Basin land uses. The public comment period ends January 17, 2014.

## SWP Publications

DWR maintains approximately 40 brochures describing the SWP, its mission, and its facilities. The brochures are periodically updated and distributed statewide to educate the public about the SWP.

Brochures issued during 2013 included updates on the *Upper Feather River Lakes* and *San Luis Joint-Use Complex*. Spanish translations were completed for a water safety video, a salmon life-cycle game, and the *Save Our Water* website.

## E-News

Each weekday, PAO compiles and electronically distributes news articles and commentaries on water-related issues to more than 5,000 subscribers. These news clips inform DWR staff of water issues relevant to DWR and its programs.

## Spotlight Stories and Social Media

On DWR's main website and on DWR's Facebook page, 53 Spotlight Stories were featured about DWR's projects and programs. Subjects included drought preparedness, snow surveys, fish passage improvement projects, California Aqueduct repair and the release of the BDCP's final chapters. DWR uses Facebook two or three times each week to send messages to followers on numerous drought- and water-related subjects. DWR's Twitter account averages three postings a week with various items of interest to the public and DWR personnel.

## DWR Magazine

Published three times a year, this news magazine features articles describing DWR programs, staff, and activities. It has evolved in recent years from separate publications. Increasingly oriented toward an electronic readership, it is a source for news of interest to DWR employees.

In 2013, features covered the Bryte Chemical Laboratory, East Branch Extension, Georgiana Slough non-physical barrier, Knaggs Ranch project, atmospheric river observatories, Dutch Slough Tidal Marsh Restoration project, water transfers, and the SWP contract extension negotiations.

## DWR Tours Program

The DWR tours program regularly attracts foreign and domestic tour groups. The SWP and its water supply mission is the major attraction. During 2013, a full schedule of foreign, domestic, and school tour groups received briefings and escorted trips to selected SWP facilities. As a basic component of DWR's Training Program, tours were provided for recently hired DWR employees to the Sacramento-San Joaquin Delta and to Oroville Dam and Lake Oroville.

During 2013, DWR welcomed a number of foreign visitors to DWR's Headquarters and SWP facilities. Tour groups came from 21 foreign countries, including Japan, China, Australia, United Kingdom, Ireland, Korea, Taiwan, Canada, Denmark, France, Turkey, Germany, India, Indonesia, Italy, Morocco, Palestine, Philippines, South Korea, Spain, and Vietnam.

There were also a number of domestic tour groups from throughout the United States, and several school tours.

Tour highlights included:

- Oroville Field Division hosted 170 groups (6 foreign) with 4,999 participants;
- Delta Field Division hosted 18 groups with 1,390 participants;
- Romero Overlook Visitors Center hosted 70 tour groups (28 foreign) with 2,365 participants;
- San Joaquin Field Division hosted four contractor groups;

- Southern Region Office hosted 10 tour groups (all foreign) with 82 participants; and
- Vista del Lago Visitors Center welcomed 20 tour groups totaling 731 participants.

Figure 15-1 shows the SWP visitors center locations.

## Community Relations and Recreational Safety

In 2013, PAO staff continued to educate the public about water conservation and the Save Our Water program through DWR's award-winning water-efficient gardens at The Farm at the California State Fair.

PAO staff also provided exhibits at the following events:

- San Francisco Flower & Garden Show;
- Children's Water Education Festival, University of California, Irvine;
- Sacramento Zoo's Earth Fest—It's a Party for the Planet!;
- Cal/EPA Earth Day, Sacramento;
- Earth Day at Sacramento City College;
- Earth Day at Sierra College, Rocklin;
- Sacramento Earth Day, Sacramento Municipal Utility District;
- Festival de Ciencias (Science Festival) César Chávez Elementary School, Davis;
- Native American Day, California State Capitol, Sacramento; and
- Grape, Raisin, & Nut Expo, Fresno.

In 2013, DWR worked with Radio Disney for the fifth year to educate younger Californians about water conservation and water safety via public service announcements, online at Radio Disney websites, and at Northern and Southern California regional events.

DWR also co-sponsors and coordinates "Catch A Special Thrill" (C.A.S.T.) fishing events for children with special needs.

During 2013, C.A.S.T. events were held at SWP reservoirs and in the Sacramento-San Joaquin Delta.

DWR continued its partnerships with communities to offer nine Aquatic Adventure Camps throughout the summer months, teaching water safety to children. In 2013, the camps utilized facilities at Lake del Valle, Castaic Lake, and Lake Perris. DWR staff also produced an Albert and Einstein Water Safety Video to complement the youth safety program.

In October 2013, DWR hosted a Take a Warrior Fishing event at Lake del Valle, for 30 participants. This program supports military personnel and their families. The focus was to create an adaptive, community-based outdoor recreation experience through the sport of fishing.

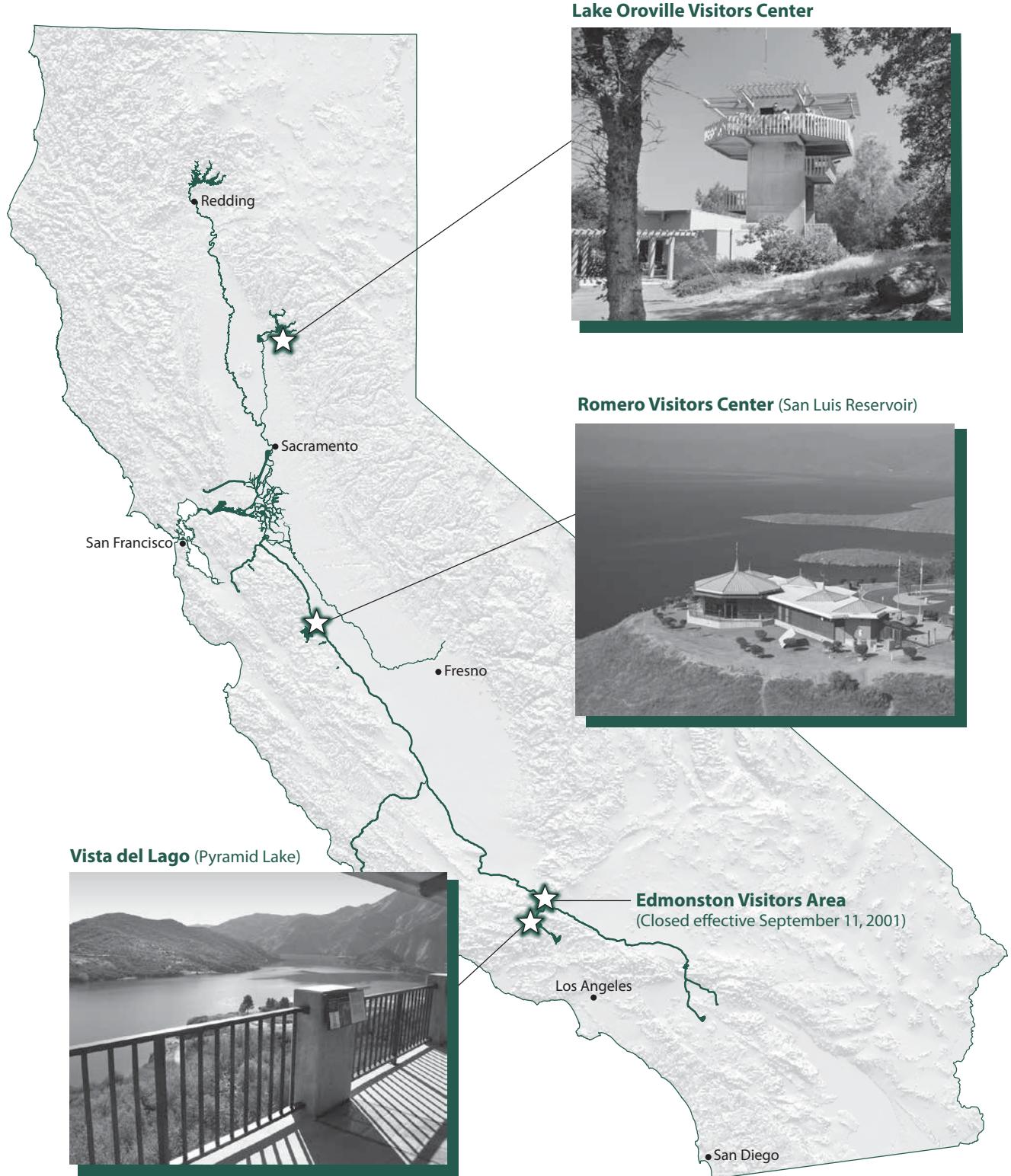
## SWP Recreation Outreach Program

The goal of the SWP recreation outreach program is to educate the public about the many recreational opportunities available at SWP facilities. PAO staff attends community events; State and county fairs; State and federally sponsored events; and forms partnerships with State, federal, and community groups.

### SWP Recreation Outreach Events

DWR, the California Department of Parks and Recreation, and several partner agencies co-sponsored or attended the following recreation outreach events in 2013:

- 25th Annual Manufacturers RV Show, Pleasanton;
- International Sportsmen's Exposition, Sacramento;
- Healdsburg Wild Steelhead Festival;
- Sacramento Boat Show and Off-Road Exposition;
- Jack Splash Club/Oroville YMCA Fit-N-Fun Day, Oroville;
- North State Sportsman Expo, Chico;
- Stockton Asparagus Festival;



**Figure 15-1** Visitors Centers on the SWP

- Elk Grove Western Festival;
- Feather Fiesta Days, Oroville;
- Dixon May Fair;
- Hooked on Fishing, Not on Drugs, Oroville
- C.A.S.T., Lake Oroville, Oroville;
- C.A.S.T., Lake del Valle, Livermore;
- C.A.S.T., O'Neill Forebay, Gustine;
- Butte County Fair Sportsman's Expo, Gridley;
- Pittsburg Seafood and Music Festival;
- Feather River Oroville Salmon Festival; and
- Stanislaus River Salmon Festival, Knight's Ferry.

The Jack Splash Club was created by PAO as a way to interest and educate kids and their families in the Oroville area about safe water recreation. The Oroville YMCA helps manage the club because of its water safety programs, fitness programs, and community standing.

### ***SWP Recreation Outreach Publications***

The following recreation outreach publications were made available to the public in 2013:

- *Family Getaway Map*
- *Family Getaway Guide*
- *Lake Oroville Recreation*
- *Camp on Water!*
- *Upper Feather River Lakes*
- *South Bay Aqueduct/Lake del Valle/Bethany Reservoir*
- *San Luis Joint-Use Complex*
- *Quail Lake*
- *Pyramid Lake*
- *Castaic Lake*
- *Lake Perris*
- *Silverwood Lake*
- *Fishing Along the State Water Project*
- *State Water Project Recreation Facilities*
- *Water Safety Along the SWP*
- *Quagga Warning Card*

- *Quagga Information Sheet*
- *Bay Delta conservation materials*

The *Family Getaway Map* and *Family Getaway Guide* were developed to expand public awareness of California's rivers, lakes, and reservoirs.

## **School Education Program**

The School Education Program's goal is to provide students and educators with a statewide perspective on water issues such as conservation, conveyance systems, and the water cycle. PAO staff develops and promotes high-quality materials, providing them free of charge to schools, educators, and water districts. Program achievements for 2013 are described below.

### **Public Events and Outreach**

PAO staff provided displays of DWR's interactive children's exhibits and other educational materials at:

- the Capitol Area Science Education Leaders Conference, Stockton;
- the Sacramento Municipal Utility District's Youth Energy Summit, Sacramento;
- the California Academy of Sciences' Family Science Night, San Francisco;
- AgVenture, San Joaquin County;
- Farm Day in the City, Bakersfield;
- the Sacramento Area Creeks Council's Creek Week Event, Sacramento;
- Water Planet Adventure Day, Fresno;
- the CalEPA Earth Day event, Sacramento;
- El Dorado County Farm Day, Placerville;
- State Scientists' Day, Sacramento;
- the Sacramento Municipal Utility District's Solar Regatta, Herald;
- Sacramento County Fair, School Tour Days, Sacramento;
- Amador County Farm Day, Plymouth; and
- the California Science Teachers Association Conference, San Jose.

PAO staff organized a team of DWR judges from multiple divisions and provided a special award at the Sacramento Regional Science and Engineering Fair in Sacramento.

PAO staff assisted at the BDCP's booth at the League of Women Voters Bay Area League Day and at both of the Save Our Water booths at the Sacramento City College Earth Day event and the California Green Fair in Sacramento.

## Publications and Materials

Curriculum materials and children's videos were provided to California teachers and water agencies through the *Water Facts & Fun* online catalog and order form and during promotional events. During 2013, the following materials were purchased or reprinted:

- 7,000 *California's Amazing Delta* book covers;
- 8,000 *California Water Works & Why It Does* student booklets;
- 3,500 *Captain Hydro* student booklets, English version;
- 3,000 hamburger activity sheets for students;
- 2,000 *KIDS: Conserve Water* student activity booklets (new offering);
- 3,000 *KIDS: Discover Floods* student activity booklets (new offering);
- 2,500 *KIDS: Discover Storm Water* student activity booklets;
- 3,000 *KIDS: Watershed Protection* student activity booklets;
- 9,000 *Parent/Student Water Conservation Checklists*;
- 4,000 *Sacramento/San Joaquin Delta Facts*;
- 4,000 *Water & Me* student activity booklets;
- 11,000 *Water Fun* student booklets; and
- 400 *Project WET* (Water Education for Teachers) books, which were provided to preservice teachers who participated in Project WET training workshops.

## Collaboration and Partnerships

DWR's School Education Program seeks to partner with other entities with similar interests and goals to pool resources in educating California's youth on the importance of water resources. During 2013, PAO staff participated in the following collaborative activities/meetings:

- DWR's Water Education Committee meeting;
- Project WET Advisory Committee, the California Environmental Education Interagency Network Committee;
- California Urban Water Conservation Council's education subcommittee and the Northern California Water Educators Collaborative;
- Creek Week Planning Committee and the Kids' Art Contest Winner Selection Subcommittee;
- Caring for Our Watersheds contest, sponsored by Agrium Inc. and the Center for Land-Based Learning; and
- Sacramento Municipal Utility District's Youth Energy Summit Student Showcase.

Additional collaborative efforts included PAO staff working with the following:

- California Department of Education's California Regional Environmental Education Community network;
- California Project WET program;
- Floodplain and Delta Ecology Institute for teachers, co-sponsored with the San Joaquin County Office of Education;
- Floodplain and Riparian Ecology Institute for teachers, co-sponsored with California State University, Chico; and
- Delta Studies Institute for teachers, co-sponsored with the San Joaquin County Office of Education.



# Glossary

This glossary contains terms used in the text of Bulletin 132-14 as well as additional terms related to water resources.

## A

**abundance** The number of organisms of a particular kind in a population. (See also, abundance index.)

**abundance index** (fisheries) A relative measure of the weight or number of fish in a stock, a segment of the stock (e.g. the spawners), or an area. Often available in time series, the information is collected through scientific surveys or inferred from fishery data.

**acre-foot** The volume of water that would cover one acre to a depth of one foot; equal to 43,560 cubic feet or 325,851 gallons.

**adaptive management** The process of improving management effectiveness by learning from the results of carefully designed decisions or experiments.

**adipose fin** A small fleshy fin with no rays on the topside of a fish located between the fin on the back and the tail fin.

**afterbay** A storage reservoir downstream of a power plant or large reservoir that regulates fluctuating discharges from a spillway, hydroelectric power plant, or a pumping plant.

**agricultural drainage** (1) The process of directing excess water away from root zones by natural or artificial means, such as by using a system of drains placed below ground surface level (also called subsurface drainage); (2) the water drained away from irrigated farmland.

**alluvium** Unconsolidated soil strata deposited over time by flowing water.

**amphipod** A small crustacean with a flat (laterally compressed) body belonging to the group Amphipoda, found in both marine and freshwater environments.

**anadromous** Fish that live the majority of their life cycle in the sea and return to freshwater streams to spawn.

**anion** An atom or a molecule in which the total number of electrons is greater than the total number of protons, giving it a net negative electrical charge.

**aquifer** A geologic formation that stores water underground (called groundwater), especially one that yields significant quantities of water to wells or springs.

**arid** Describes a climate or region in which precipitation is so deficient in quantity or occurs so infrequently that intensive agricultural production is not possible without irrigation.

**artificial recharge** The addition of surface water to a groundwater basin by human activity, such as putting surface water into spreading basins.

**atmospheric river** A short-lived, narrow stream of high-velocity wind that carries large amounts of water vapor from tropical oceans to mid-latitude land areas resulting in large amounts of precipitation in those areas.

**average annual runoff** The average value of annual runoff volume calculated for a selected period of record, at a specified location, such as a dam or stream gauge.

**average year water demand** Demand for water under average hydrologic conditions for a defined level of development.

## B

**balanced water conditions** These exist when upstream reservoir storage releases, plus other inflows, approximately equal the water supply needed to (1) satisfy Sacramento Valley and Sacramento-San Joaquin Delta in-basin needs, including Delta water quality requirements, and (2) meet export needs. DWR and the Bureau of Reclamation jointly decide when balanced or excess water conditions exist.

**beneficial use** Water quality beneficial use categories for water are designated by State law. Beneficial uses of the waters of the State that may be protected against water quality degradation include, but are not limited to, domestic, municipal, agricultural, and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

**benthic organisms** Aquatic animals without backbones that dwell on or in the bottom sediments of fresh or salt water.

**biological assessment** A document prepared as part of the Endangered Species Act, Section 7 process to determine whether a proposed major construction activity under the authority of a federal action agency is likely to adversely affect listed species, proposed species, or designated critical habitat.

**biological opinion** A document required by the Endangered Species Act stating the opinion of the U.S. Fish and Wildlife Service or National Marine Fisheries Service on whether or not a federal action is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat.

**biota** Living organisms of a region, as in a stream or other body of water.

**brackish water** Water containing dissolved minerals in amounts that exceed normally acceptable standards for municipal, domestic, and irrigation uses. Considerably less saline than seawater.

**bromide** A salt which naturally occurs in small quantities in seawater; a compound of bromine.

**Burns-Porter Act** (California Water Code Section 12930 et seq.) Formally known as the California Water Resources Development Bond Act, this act passed the Legislature in 1959 and was approved by voters in 1960. It provided initial funding of \$1.75 billion in general obligation bonds and authorized construction of the State Water Project facilities.

**bypass** As part of a flood management system, a natural overflow area or channel that allows excessive floodwaters to flow or be diverted from a main river channel to prevent water from overflowing the main river channel.

## C

**CALFED Bay-Delta Program** (CALFED) A federal and State multiagency program established by the 1994 Bay-Delta Accord. CALFED's mission was to develop and implement a long-term comprehensive plan that would restore ecological health and improve water management in the Bay-Delta system. In 2010, all functions and responsibilities of CALFED were assumed by the Delta Stewardship Council.

**California Data Exchange Center** (CDEC) CDEC installs, maintains, and operates an extensive hydrologic data collection network including automatic snow reporting gauges for the DWR Cooperative Snow Surveys Program and precipitation and river stage sensors for flood forecasting. CDEC provides a centralized location to store and process real-time hydrologic information gathered cooperatively throughout the State.

**California Irrigation Management Information System** (CIMIS) A network of automated weather stations that are owned and operated cooperatively between DWR and local agencies. The stations are installed in most of the agricultural and urban areas of the State and provide farm and large landscape irrigation managers and researchers with "real-time" weather

data to estimate crop and landscape evapotranspiration rates and make irrigation management decisions.

**California Water Resources Simulation Model** (CALSIM) A computer model that simulates operations of SWP and Central Valley Project water delivery systems. CALSIM II is a planning tool that was jointly developed by DWR and the Bureau of Reclamation. The model's inputs include hydrologic data for specified study planning years, water demands, infrastructure and regulatory change, and other factors. Outputs include deliveries to water contractors, river flows, reservoir changes, Delta hydrologic parameters, and other data.

**cation** An atom or a molecule in which the total number of protons is greater than the total number of electrons, giving it a net positive electrical charge.

**Central Valley Project deliveries** The volume of water imported to a given area through the Central Valley Project.

**ciliates** Single-celled organisms, characterized by the presence of many hair-like structures called cilia used for locomotion and for feeding.

**climate change** Any significant change in the measures of climate lasting for an extended period of time. This includes major changes in temperature, precipitation, or wind patterns, among other things, that occur over several decades or longer.

**coded wire tag** A small piece of stainless steel wire injected into the snout of juvenile salmon and steelhead. Each tag is etched with a binary code that identifies a fish release group.

**conjunctive use** Application of surface water and groundwater to meet the demand for a beneficial use. Coordinated and planned management of both surface water and groundwater resources to maximize the efficient use of the resources; that is, the planned and managed operation of a groundwater basin and a surface water storage system combined through a coordinated conveyance infrastructure. Water is stored in the groundwater basin for later planned use by intentionally recharging the basin during years of above-average surface water supply.

**conservation facilities** Reservoir facilities that store water and make it available for later use.

**consultation** The process required of a federal agency under Section 7 of the Endangered Species Act when any activity authorized, carried out, or conducted by that agency may affect a listed species or designated critical habitat; consultation is with the U.S. Fish and Wildlife Service or National Marine Fisheries Service and may be either informal or formal.

**conveyance** Provides for the movement of water and includes the use of natural watercourses and constructed facilities including open channels, pipelines, diversions, fish screens, distribution systems, and pump lifts.

**conveyance facilities** Canals, pipelines, pump lifts, ditches, etc., used to move water from one area to another.

**cryptomonad** A single-celled, photosynthetic organism with two flagella that inhabits both marine and freshwater environments.

**cyanobacteria** Photosynthetic, nitrogen-fixing, colonial bacteria found in a wide variety of terrestrial and aquatic habitats, often referred to as “blue-green algae.”

## D

**Davis-Grunsky Act** Authorized in 1960 as part of the Burns-Porter Act, this act provides construction loans for local domestic water projects and agricultural water conservation projects.

**Delta outflow** Freshwater outflow from the Sacramento-San Joaquin Delta to protect the beneficial uses within the Delta from the incursion of saline water.

**Delta outflow index** A calculated approximation of the seaward freshwater outflow as it passes Chipps Island near Pittsburg, beyond the confluence of the Sacramento and San Joaquin rivers.

**desalting** A process to reduce the salt concentration of seawater or brackish water.

**diatom** Microscopic marine or freshwater colonial algae that have cell walls made out of silica.

**dinoflagellate** A small, single-celled organism with flagella and an internal skeleton of cellulose-like plates found in both marine and freshwater environments and best known as causes of harmful algal blooms.

**discount rate** The interest rate used to calculate the present value of future benefits and future costs or to convert benefits and costs to a common time basis.

**dissolved organic compounds** Carbon-based substances dissolved in water.

**dissolved oxygen** The amount of oxygen dissolved in water or wastewater, usually expressed in milligrams per liter, parts per million, or percent of saturation.

**distinct population segment** A subdivision of a species that is treated as a species for purposes of listing under the Endangered Species Act. The smallest division of a taxonomic species that can be protected under the Endangered Species Act.

**drainage area** The area of land from which water drains into a river; for example, the Sacramento River Basin, in which all land area drains into the Sacramento River. Also called a watershed, drainage basin, or river basin.

**drought preparedness** The magnitude and probability of economic, social, or environmental consequences that would occur as a result of a sustained drought under a given study plan.

**drought condition** Hydrologic conditions during a defined period, greater than one dry year, when precipitation and runoff are much less than average.

**drought year supply** The average annual supply of a water development system during a defined drought period.

**Delta Simulation Model 2 (DSM2)** A hydrodynamic and water quality simulation model used to simulate water flow and quality conditions in the Sacramento-San Joaquin Delta. The model is frequently used to evaluate potential changes in Delta conditions (salinity, flow, and water level) associated with changes in flow patterns in the Delta.

## **E**

**ecosystem restoration** The activity of improving the condition of natural landscapes and biotic communities.

**effluent** Wastewater or other liquid, treated or in its natural state, flowing from a treatment plant or process.

**electrical conductivity** The measure of the ability of water to conduct an electrical current, the magnitude of which depends on the dissolved mineral content of the water.

**endangered species** An animal or plant species in danger of extinction throughout all or a significant portion of its range.

**entrainment** The unintended diversion of fish (or other aquatic organisms) into an unsafe passage route. The incidental trapping of any life stage of fish within waterways or structures that carry water being diverted for use

elsewhere. Fish are considered “entrained” when they enter a diversion point, which for the SWP is Clifton Court Forebay.

**environmental impact report** A report done to analyze project or program impacts on a variety of resources under the California Environmental Quality Act.

**environmental impact statement** A report done to analyze project or program impacts on a variety of resources under the National Environmental Policy Act.

**environmental water** The water for wetlands, for the instream flow in a major river or the Bay-Delta, or for a designated wild and scenic river.

**escapement** The portion of an anadromous fish population that escapes commercial and recreational fisheries and reaches its freshwater spawning grounds.

**estuary** A semi-closed coastal body of water where the lower course of a river enters the sea, influenced by tidal action where the tide meets the river flow, resulting in brackish water.

**evapotranspiration** The amount of water transpired by plants, retained in plant tissues, and evaporated from plant tissues and surrounding soil surfaces. (See also, reference evapotranspiration.)

**excess water conditions** Periods when it is agreed that releases from upstream reservoirs plus unregulated flow exceeds Sacramento Valley in-basin uses plus exports. DWR and the Bureau of Reclamation jointly decide when balanced or excess water conditions exist. During excess water conditions, sufficient water is available to meet all beneficial needs, and the SWP and Central Valley Project are not required to supplement the supply with water from reservoir storage.

**export** An amount of water transported from one source or location to another.

## F

**firm yield** The maximum annual supply of a water development project under drought conditions, for some specified level of demand.

**flagellates** Organisms with one or more whip-like structures called flagella, which are used for locomotion or feeding.

**floodplain** A strip of relatively level land bordering a stream or river that is often inundated during times of high water.

**forages** Food for animals, especially crops grown to feed horses, cattle, and other livestock.

**forebay** A reservoir at the intake of a pumping plant or power plant to stabilize water levels; also a storage basin for regulating water for percolation into groundwater basins.

**fork length** A measurement used frequently for fish length when the tail has a fork shape; projected straight distance between the tip of the snout and the fork of the tail.

**freeboard** The height of the physical top of a levee above a specified water surface elevation. This serves as a factor of safety for containing water in the stream or reservoir without overtopping the levee or dam.

**fry** Young, recently hatched fish that are able to swim and catch their own food.

## G

**greenhouse gas emissions** Also referred to as carbon intensity or carbon footprint, greenhouse gases trap heat in the atmosphere and contribute to climate change. They include carbon dioxide, methane, nitrous oxide, and fluorinated gases.

**grilse** A term that generally refers to young adult salmonids of a certain length and age. Grilse are often 55–65 centimeters (22–26 inches) in length. They are assumed to be two years old, and adults are assumed to be age three and older.

**groundwater** Water located beneath the land surface that fills the pore spaces of the alluvium, soil, or rock formation in which it is situated. It excludes soil moisture, which refers to water held by capillary action in the upper unsaturated zones of soil or rock.

**groundwater bank** Groundwater banking refers to the practice of recharging specific amounts of water in a groundwater basin during wet or above-average years, which can later be withdrawn and used by the depositing entity.

**groundwater basin** An alluvial aquifer or a stacked series of alluvial aquifers with reasonably well-defined boundaries in a lateral direction and having a definable bottom.

**groundwater recharge** The natural or intentional infiltration of surface water into the zone of saturation of an aquifer (i.e., into groundwater).

**groundwater storage capacity** The volume of void space that can be occupied by water in a given volume of a formation, aquifer, or groundwater basin.

**groundwater table** The upper surface of the zone of saturation in an unconfined aquifer.

## H

**habitat** The place or environment where a plant or animal naturally lives and grows with a group of particular environmental conditions.

**habitat conservation plan** A plan that outlines ways of maintaining, enhancing, and protecting a given habitat type needed to protect species; it usually includes measures to minimize impacts, and may include provisions for permanently protecting land, restoring habitat, and relocating plants or animals to another area. Required before a federal Endangered Species Act incidental take permit may be issued.

**halophyte** A plant capable of growing in salty soil.

**haptophyte** A kind of unicellular marine phytoplankton typically covered in tiny scales or plates composed of carbohydrates and calcium deposits.

**hydraulic barrier** (1) A barrier created by injecting fresh water to control seawater intrusion in an aquifer, or created by water injection to control migration of contaminants in an aquifer. (2) A barrier developed in the estuary (the Delta) by release of fresh water from upstream reservoirs to prevent intrusion of seawater into the body of fresh water.

**hydrologic balance** An accounting of all water inflow to, water outflow from, and changes in water storage within a hydrologic unit over a specified period of time.

**hydrologic basin** Where, conceptually, any drop of water that falls in the basin will flow to a stream or groundwater basin within it. It is a larger set of which a subset is the groundwater basin that can be within a hydrologic basin. DWR's hydrologic regions are collections of the larger hydrologic basins.

**hydrologic region** DWR divides California into 10 hydrologic regions, corresponding to the state's major water drainage basins: North Coast, San Francisco Bay, Central Coast, South Coast, Sacramento River, San Joaquin River, Tulare Lake, North Lahontan, South Lahontan, and Colorado River.

**hydrology** The science dealing with the occurrence, circulation, distribution, and properties of the waters of the earth and its atmosphere.

**I**

**in-lieu recharge** The practice of providing surplus surface water to historic groundwater users, thereby leaving groundwater in storage for later use.

**ion exchange** Processes of purification, separation, and decontamination of aqueous and other ion-containing solutions with solid ion exchangers (such as sodium carbonate used for water softening).

**instream use** Use of water within its natural watercourse as specified in an agreement, water rights permit, etc. For example, the use of water for navigation, recreation, fish and wildlife, aesthetics, and scenic enjoyment.

**integrated regional water management** A comprehensive approach for determining the appropriate mix of demand and supply management options to provide long-term, reliable water supply at the lowest reasonable cost and with the highest possible benefits to customers, economic development, environmental quality, and other social objectives.

**invertebrate** An animal that lacks a backbone.

**J**

**joint points of diversion** The ability of the SWP to use Jones Pumping Plant as a point of diversion and the Central Valley Project to use Banks Pumping Plant as a point of diversion. The SWP and Central Valley Project may use one another's diversion facilities under certain conditions.

**joint powers agreement** An agreement entered into by two or more public agencies that allows them to jointly exercise any power common to the contracting parties. This is defined in Chapter 5 (commencing with Section 6500) of Division 7 of Title 1 of the California Government Code.

**joint-use facilities** Those portions of the SWP that serve both SWP and Central Valley Project functions, and in which both State and federal agencies participate in the construction and use; specifically, the San Luis complex and Reaches 3, 4, 5, 6, and 7 of the California Aqueduct.

**jurisdictional dam** Artificial barriers, together with appurtenant works, which are 25 feet or more in height or have an impounding capacity of 50 acre-feet or more, which are regulated by the DWR Division of Safety of Dams.

**K**

**kathablepharid** A specific type of cryptomonad.

**L**

**land subsidence** The lowering of the natural land surface in response to: earth movements; the lowering of fluid pressure or groundwater level; consolidation of underlying soils; removal of underlying supporting materials by mining (e.g., oil and gas extraction); compaction caused by wetting; or oxidation of organic matter in soils (e.g., peat soil being converted to gas).

**legal Delta** The legal geographical boundaries of the Sacramento-San Joaquin Delta, as established by the Delta Protection Act of 1959, and as defined in California Water Code Section 12220.

**listed species** A species, subspecies, or distinct population segment that has been added to the federal list of endangered and threatened wildlife and plants. The term also applies to a species or subspecies added to the California list of endangered or threatened plants and animals.

**M**

**maximum contaminant level** The highest drinking water contaminant concentration allowed under federal and State Safe Drinking Water Act regulations.

**mitigation** (1) An action or set of actions designed to avoid, minimize, reduce, eliminate, or compensate for adverse environmental impacts due to an agency activity or program. (2) Reduction of human activities that affect global climate change, including strategies to reduce greenhouse gas emissions.

**Monterey Agreement** An agreement executed in December 1994 among DWR and the SWP water contractors to address fundamental contract issues by amending the long-term water supply contracts.

**Monterey Amendments** Amendments to the long-term water supply contracts for the SWP entered into by DWR and most (27 of 29) of the SWP water contractors in 1995 and 1996 as implementation of the terms of the Monterey Agreement.

**multipurpose project** A project, usually a reservoir, designed to serve more than one purpose, whose costs are normally allocated among the different functions it provides. For example, a project that provides water supply, flood control, and generates hydroelectricity.

**N**

**natural community conservation planning** (NCCP) A process that promotes multispecies and multihabitat management and conservation through cooperative efforts among public agencies, private landowners, and other interests within a plan area. It provides a framework for minimizing impacts on plant communities and wildlife from proposed development projects.

**natural recharge** Natural replenishment of an aquifer generally from snowmelt and runoff through seepage from the surface.

**net groundwater** The amount of groundwater extraction in excess of deep percolation.

**nonreimbursable costs** The part of project costs allocated to general statewide or national beneficial purposes and funded from general revenues, rather than by water users.

**normalized demand** The process of adjusting actual water use in a given year to account for unusual events such as dry weather conditions, government price support programs for agriculture, rationing programs, or other unusual conditions.

**O**

**operational yield** An optimal amount of groundwater that should be withdrawn from an aquifer system or a groundwater basin each year. It is a dynamic quantity that must be determined from a set of alternative groundwater management decisions subject to goals, objectives, and constraints of the management plan.

**Operations Criteria and Plan** (OCAP) (1) The document titled, "Long-Term Central Valley Project Operations Criteria and Plan," that serves as a baseline description of the facilities and operating environment of the Central Valley Project and the SWP and identifies factors influencing the physical and institutional conditions and decision-making processes under which the projects currently operate. Regulatory and legal requirements are explained and alternative operating models and strategies described. (2) The document titled, "Central Valley Project Operations Criteria and Plan" (CVP-OCAP, 2004), that describes the laws, regulations, and other criteria applicable to operations of the Central Valley Project that were in effect from 1991 through 2003.

**Operations Criteria and Plan biological opinion** (1) The document titled, "Biological Opinion and Conference Opinion on the Long-Term Operations of the Central Valley Project and the State Water Project" (NOAA Fisheries, 2009).

(2) The December 15, 2008, memorandum from the U.S. Fish and Wildlife Service to the Bureau of Reclamation that comprises the U.S. Fish and Wildlife Service biological opinion on the coordinated operations of the Central Valley Project and the SWP.

**ostracod** A type of bivalve (with a hinged, two-part shell) crustacean, mostly microscopic to small in size, found in aquatic and marine habitats occurring as benthic or planktonic organisms.

**otolith** Ear bone of a fish. Otoliths often show seasonal or annual rings that can be used to determine age.

**outflow** The amount of applied water and conveyance water leaving the service area. Also conveyance outflow.

## P

**parr** The developmental life stage of salmon and trout when the young have developed parr marks (vertical bars or spots on the sides of the fish) and are actively feeding in fresh water.

**pelagic** Inhabiting the water column as opposed to being associated with the bottom; generally occurring anywhere from the water's surface down to, but not including, the bottom.

**pelagic fish** Fish that live in open water, often near the surface.

**perched groundwater** Groundwater supported by a zone of material of low permeability located above an underlying main body of groundwater.

**perennial yield** The maximum quantity of water that can be annually withdrawn from a groundwater basin over a long period of time without developing an overdraft condition.

**permeability** The capability of soil or other geologic formations to transmit water.

**phytoplankton** Minute plants, such as algae, that live suspended in bodies of water and drift with the current.

**precipitation** A deposit on the earth of hail, rain, mist, sleet, or snow. It is the common process by which atmospheric water becomes surface or subsurface water.

**project yield** The water supply attributed to all features of a project, including integrated operation.

**proposal solicitation package** (PSP) As part of the formal solicitation for grant applications, a PSP provides detailed instructions on the mechanics of submitting proposals and specific information on submittal requirements.

**public trust doctrine** A legal doctrine recognizing public rights in the beds, banks, and waters of navigable waterways, and the State's power and duty to exercise continued supervision over them as trustee for the benefit of the people.

**pump lift** (1) The vertical distance that a pump will raise water. (2) The distance between the groundwater table and the overlying land surface.

**pumped storage project** A hydroelectric power plant and reservoir system using an arrangement whereby water released for generating energy during peak load periods is stored and pumped back into the upper reservoir, usually during periods of reduced power demand.

**pumping-generating plant** A plant that can either pump water or generate electricity, depending on the direction of water flow.

**punch list** A list of tasks or "to-do" items necessary for the completion of a construction project.

## Q

**Quantification Settlement Agreement** A complex package of agreements that defines the rights to a portion of Colorado River water for four water agencies in Southern California, provides for water transfers, and establishes a Joint Powers Authority to oversee restoration of the Salton Sea. The *Colorado River Water Delivery Agreement: Federal Quantification Settlement Agreement* was signed in October 2003 by Coachella Valley Water District, Imperial Irrigation District, The Metropolitan Water District of Southern California, the San Diego County Water Authority, and the federal government.

## R

**radial gates** Gates used to control the flow of water into or from a reservoir, canal, or pipeline, or through a channel. Each gate can close under its own weight and is operated independently by remote control.

**radio-telemetry** Automatic measurement and transmission of data from remote sources via radio to a receiving station for recording and analysis.

**rate structure** Designates the rate basis for cost recovery (e.g., flat, uniform, tiered, etc.). Block/tiered rates are assumed to provide cost signals to

consumers. Costs can include capital, operation and maintenance, financing, environmental compliance (documentation, permitting, and mitigation), etc.

**raw water** Water found in the environment, such as rainwater, surface water (e.g., lakes, streams, and the ocean), or groundwater, that has not been treated. Most water is considered raw until it is treated for consumption or used for agriculture or industry.

**reach** On the California Aqueduct, a specific segment of the canal, identified by a number, which is the smallest unit of the SWP identified in water supply contracts for cost allocation and repayment purposes.

**rearing** Refers to the amount of time that juvenile fish spend feeding in nursery areas of rivers, lakes, streams, and estuaries before migration.

**reasonable and prudent alternatives** Alternative actions that can be implemented in a manner consistent with the intended purpose and scope of a project, are economically and technologically feasible, and would avoid the likelihood of jeopardizing the continued existence of listed species or resulting in the destruction or adverse modification of critical habitat.

**recharge** Water added to an aquifer or the process of adding water to an aquifer. Groundwater recharge occurs either naturally as the net gain from precipitation or artificially as the result of human influence.

**recharge basin** A surface facility constructed to infiltrate surface water into a groundwater basin.

**recreation** Water-dependent recreation activities that are consumptive (e.g., parks), flat-water (e.g., boating), or flow-based (e.g., whitewater rafting).

**recycled water** (1) The application of treated water/reclaimed water to meet a beneficial use, supplanting a potable or potentially potable supply. (2) Treated municipal, industrial, or agricultural wastewater to produce water that can be reused.

**redd** A shallow nest of fish eggs covered with gravel in a streambed.

**reference evapotranspiration (ET<sub>o</sub>)** The evapotranspiration rate from an extended surface of 3 to 6 inch (8 to 15 centimeter) tall green grass cover of uniform height, actively growing, completely shading the ground, and not short on water.

**reliability planning** Water reliability management planning is done by comparing the costs of taking actions to maintain or increase reliability to the costs of accepting less reliability. On this basis, accepting the costs of the adverse effects of less than 100 percent reliability could be a legitimate planning decision. Providing full water supply to meet 100 percent of

projected future water demand is not the planning goal, rather, the goal is to find the justified level of reliability.

**reoperation** See system reoperation.

**repayment reach** California Aqueduct reaches are delineated for the purpose of making project repayment as equitable as possible. The reaches are generally numbered consecutively from the Delta, with Reach 1 being first. Repayment reaches vary greatly in length. (See also, reach.)

**required instream flow** The amount of water required for instream use by agreement, water rights permit, or State/federal acts.

**reused water** The application of previously used water to meet a beneficial use, whether treated or not prior to the subsequent use. (See also, recycled water.)

**return flow** The portion of withdrawn water not consumed by evapotranspiration or system losses which returns to its source or to another body of water.

**reverse osmosis** A method to remove salts and other constituents from water by forcing water through membranes.

**riparian area** The area of land adjacent to a stream, lake, or wetland with vegetation that, due to the presence of water, is distinctly different from the vegetation of adjacent upland areas. Riparian areas provide important fish and wildlife habitat.

**riparian [water] right** A right to use surface water derived from the fact that the land in question abuts the banks of a stream or other water source (lake or pond). These rights are senior to most appropriative water rights.

**riprap** A layer of large uncoursed stones, broken rock, boulders, or precast blocks placed in random fashion on the upstream and downstream faces of embankment dams, stream banks, on a reservoir shore, on the sides of a channel, or other land surfaces to protect them from erosion caused by current, wind, wave, and/or ice action. Very large riprap is sometimes referred to as "armoring."

**run (of fish)** A group of fish of the same species whose upstream spawning migration timing is associated with the seasons, e.g., fall, spring, summer, and winter runs. Members of a run may interbreed with fish of another run.

**runoff** The volume of surface flow from an area during a specified period. Natural runoff is the portion of precipitation that runs off the land and makes up the natural flow in rivers. Incidental runoff is the portion of precipitation that would have been used by natural vegetation but now contributes to

runoff. This is a result of roads, paved areas, building roofs, land drainage systems, fields developed for irrigation, and other changes in land use.

## S

**sabellid polychaete** A segmented marine worm that lives in a tube that it builds.

**saline intrusion** The movement of salt water into a body of fresh water. It can occur in either surface water or groundwater bodies.

**salinity** Generally, the concentration of mineral salts dissolved in water. Salinity may be expressed in terms of a concentration, weight (total dissolved solids), electrical conductivity, or osmotic pressure. When describing salinity influenced by seawater, salinity often refers to the concentration of chlorides in the water. (See also, total dissolved solids.)

**salmonid** A fish species belonging to the salmon family, including salmon and trout.

**salt-water barrier** A physical facility or method of operation designed to prevent the intrusion of salt water into a body of fresh water.

**salvage (fish)** At the SWP and Central Valley Project fish protective facilities, fish are removed from export water, transported, and released away from the influence of the water diversion facilities.

**sediment** Soil or mineral material transported by water and deposited in streams or other bodies of water.

**seepage** The gradual movement of water into, through, or from a porous medium. Also, the infiltration of water into the soil from canals, ditches, laterals, watercourses, reservoirs, storage facilities, or other bodies of water, or from a field.

**service area** The geographic area served by a water agency.

**smolt** A juvenile salmonid fish that has assumed the silvery color of the adult and, while migrating toward the ocean, is undergoing physiological changes that will allow it to live in salt water.

**snowpack** The annual accumulation of snow in mountain areas.

**soluble minerals** Naturally occurring substances capable of being dissolved.

**special status species** Plants or animals legally protected under either the federal or California Endangered Species Act or the California Fish and Game Code; those species not currently protected by statute but considered to be rare or endangered under the California Environmental Quality Act; and species considered by the scientific community to be sufficiently rare to qualify for legal protection (e.g., candidate species for listing as threatened or endangered, species of concern to the Department of Fish and Wildlife or U.S. Fish and Wildlife Service, or rare plants identified by the California Native Plant Society).

**species of concern** An informal term referring to a species that might be in need of conservation action.

**spillway** The section of a dam designed to permit water to pass over its crest; a weir or channel taking overflow from the dam. The spillway serves as a safety channel to prevent erosion or overtopping of the dam.

**sprinkler irrigation** A method of irrigation in which the water is sprayed, or sprinkled, through the air to the ground surface.

**stakeholder** Individuals or groups who can affect or be affected by an organization's activities; individuals or groups with an interest or "stake" in what happens as a result of a decision or action.

**State Water Project deliveries** The volume of water imported to a given area through the State Water Project.

**statewide water management systems** These include physical facilities (more than 1,200 State, federal, and local reservoirs, as well as canals, treatment plants, and levees), which make up the backbone of water management in California; and statewide water management programs, which include water-quality standards, monitoring programs, economic incentives, water-pricing policies, and statewide water-efficiency programs such as appliance standards, labeling, and education.

**strategic plan** The long-term goals of an organization or program and an outline of how the goals will be achieved (e.g., adopting specific strategies, approaches, and methodologies).

**stocking** Releasing hatchery-raised fish into a water body for the purposes of supplementing existing populations or creating new ones for fishing (also referred to as "planting").

**streamflow** The rate of water flow past a specified point in a channel.

**subsidence** See land subsidence.

**surface storage** Surface storage uses reservoirs to collect water for later release and use.

**surface supply** Water supply obtained from streams, rivers, lakes, and reservoirs.

**system reoperation** Changes to existing water system operations and management procedures for existing reservoirs and conveyance facilities to increase their water-related benefits.

## T

**threatened species** An animal or plant species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

**tidal wetlands** The margins of an estuary that are periodically inundated by tides; includes all habitats within the elevation range between the lowest and highest tides: intertidal mudflats, regularly inundated tidal marsh plains, tidal channels within the marsh, and infrequently inundated wetland-upland transition zones at the edge of the upland.

**total capital cost** The total monetary cost of options required for “turnkey” implementation, including environmental and third-party impact mitigation, storage, conveyance, energy, capitalized operations and maintenance, administrative costs, planning costs, legal costs, and engineering costs.

**total dissolved solids** The quantity of the residual minerals dissolved in water that remain after evaporation of a solution.

**transpiration** An essential physiological process in which plant tissues give off water vapor into the atmosphere.

**tributary** A stream that flows into a larger stream or other body of water.

**tubificid worm** An aquatic worm with a small, thin, segmented body.

**turbidity** A measure of the cloudiness of water caused by the presence of suspended particles in the water that attenuate or reduce light penetration. Turbidity in natural waters may be composed of organic and/or inorganic constituents and may have direct implications to drinking water treatment.

**turnout** The point at which water is diverted from a main channel or water delivery facility to a distributing facility; a structure through which a water contractor takes delivery of water.

**U**

**unimpaired flow** The flow past a specified point on a natural stream that is unaffected by stream diversion, storage, import, export, return flow, or change in use caused by modifications in land use.

**unimpaired runoff** A representation of the natural water production of a river basin, unaltered by upstream diversions, storage, or by export or import of water to or from other watersheds.

**Urban Water Management Planning Act** Sections 10610 through 10657 of the California Water Code. The act requires urban water suppliers to prepare urban water management plans that describe and evaluate sources of water supplies, efficient uses of water, demand management measures, implementation strategies and schedules, and other relevant information and programs within their water service areas. Urban water suppliers (Section 10617) are either publicly or privately owned and provide water for municipal purposes, either directly or indirectly, to more than 3,000 customers or supply more than 3,000 acre-feet of water annually.

**urban water use** The use of water for urban purposes, including residential, commercial, industrial, recreation, energy production, military, and institutional classes. The term is applied in the sense that it is a kind of use rather than a place of use.

**urban water use efficiency** Methods or technologies resulting in the same beneficial residential, commercial, industrial, and institutional uses with less water or increased beneficial uses from existing water quantities.

**V**

**vernal pools** A type of wetland that occurs in shallow foothill and valley depressions. Water remains in pools and swales until it evaporates, usually within a few days to a few months, mainly in late winter and spring.

**volatile organic compound (VOC)** A man-made organic compound that readily vaporizes in the atmosphere. These compounds are often highly mobile in the groundwater system and are generally associated with industrial activities.

**W**

**wastewater** Domestic or municipal sewage or effluent from an industrial process.

**water demand** The desired quantity of water that would be used if the water were available and if a number of other factors, such as price, did not change. Demand is not static.

**water exchange** Typically, water delivered by one water user to another water user; the receiving water user will return the water at a specified time or when the conditions of the parties' agreement are met. (See also, water transfer.)

**water quality** Description of the chemical, physical, and biological characteristics of water, usually with regard to its suitability for a particular purpose or use.

**water quality objectives** Specific, legally enforced levels of water quality desired for identified uses including drinking, recreation, fish production or propagation of other aquatic life, agriculture, industry, and urban use.

**water recycling** The process of treating wastewater, rendering it suitable for beneficial use.

**water right** In water law, the right of a user to use water from a water source (e.g., a river, stream, pond, or source of groundwater).

**water service reliability** The degree to which a water service system can successfully manage water shortages.

**water supply exports** The amount of water that a region transfers to another to meet needs.

**water table** See groundwater table.

**water transfer** A temporary or long-term change in the point of diversion, place of use, or purpose of use due to a transfer or exchange of water or water rights. A more general definition is that water transfers are a voluntary change in the way water is usually distributed among water users in response to water scarcity.

**water year** A continuous 12-month period for which hydrologic records are compiled and summarized. Different agencies may use different calendar periods for their water years. For DWR, a water year is October 1 through September 30.

**watershed** The land area from which water drains into a stream, river, or reservoir. Also called drainage area, drainage basin, or river basin.

**watershed management** The process of evaluating, planning, managing, restoring, and organizing land and other resource use within an area that has a single common drainage point.

**weir** (1) Any structure across a watercourse used to control, raise, or measure flows. (2) A barrier constructed to catch upstream migrating adult fish.

**wetlands** Lands including swamps, marshes, bogs, and similar areas such as wet meadows, river overflows, mud flats, and natural ponds. An area characterized by periodic inundation or saturation, certain types of soils, and vegetation adapted for life in saturated soil conditions.

**Wild and Scenic River systems** State and federally designated river systems under the 1968 national Wild and Scenic Rivers Act and the 1972 California Wild and Scenic Rivers Act. Seventeen rivers in California, including many forks and tributaries, are designated wild, scenic, or recreational.

**wheel** As applied to water and power, to provide the use of one agency's conveyance facilities for the purpose of transporting another agency's supply.

## X

**X2** Delta outflow interaction with tides determines the location of the X2 isohaline salinity gradient. X2 is the location in the Bay-Delta Estuary where the tidally averaged bottom salinity is 2 parts per thousand. It is expressed as the distance in kilometers from the Golden Gate Bridge. X2 is used as a primary indicator in managing Delta outflow.

## Z

**zooplankton** Small aquatic animals that are suspended or swimming in water.

## **Appendix B**

### **Data and Computations Used to Determine 2015 Water Charges**

Appendix B, Data and Computations Used to Determine 2015 Water Charges, was previously printed and distributed under an August 2014 cover letter from Robert Cooke, Chief of SWPAO, to State Water Project water contractors to document and support DWR's calculation of the contractors' annual charges. Appendix B appears on the following pages as it was published in August 2014. However, Table B-7 was not published in the August 2014 version of Appendix B because the data was not available at the time of publication. Table B-7 now appears in its entirety on page B-76.



**DEPARTMENT OF WATER RESOURCES**

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SACRAMENTO, CA 94236-0001  
(916) 653-5791



August 8, 2014

State Water Project Contractors:

We have completed the annual review and redetermination of all water supply and financial aspects of the State Water Project as required by the water supply contracts. This report presents the data and computations used by the State of California in determining the long-term water supply contractors' Statements of Charges to be paid in calendar year 2015.

The information contained herein is published in compliance with Article 22(f) and Article 29(e) of the water supply contracts.

The report, Bulletin 132-14, Appendix B, will also be published as part of the Department of Water Resources' Bulletin 132-14.

Sincerely,

A handwritten signature in black ink that reads "Robert B. Cooke".

Robert B. Cooke, Chief  
State Water Project Analysis Office



## Appendix B

### Data and Computations

### Used to Determine 2015 Water Charges

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## Appendix B

### Data and Computations

### Used to Determine 2015 Water Charges

The Department of Water Resources (DWR) annually furnishes Statements of Charges to the 29 State Water Project (SWP) water supply contractors. Article 29(e) of the *Standard Provisions for Water Supply Contract*, approved August 3, 1962, describes those statements:

"All such statements shall be accompanied by the latest revised copies of the document amendatory to Article 22 and of Tables B, C, D, E, F, and G of this contract, together with such other data and computations used by the State in determining the amounts of the above charges as the State deems appropriate."

To comply with Article 29(e), DWR performs an annual comprehensive review and redetermination of all water supply and financial aspects of the SWP for the entire project repayment period. This annual redetermination is performed in accordance with Article 22(f) and Article 28 of the water supply contracts, which concern the Delta Water Rate and annual transportation charges, respectively.

Appendix B includes data used to document the redetermination of water charges to be paid by contractors during calendar year 2015. The information is based on established data about the SWP, both known and projected, as of June 2014; however, small volumes of water may be reclassified over time pursuant to water supply contract provisions. If research requires more current data than was available at the time of

production of Bulletin 132, please contact the State Water Project Analysis Office. Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

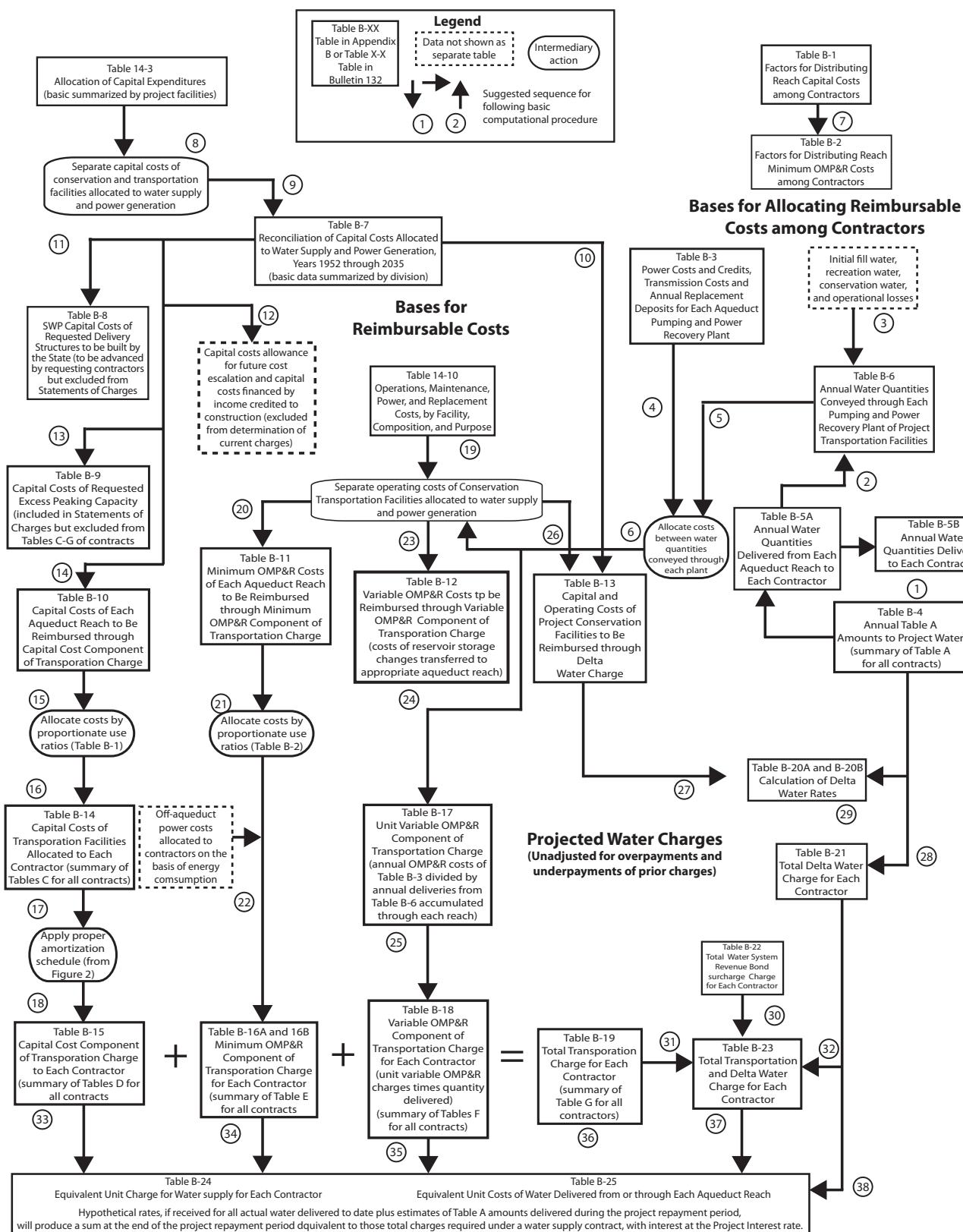
The computational procedures and interrelationships between tabulations in this appendix are outlined on Figures B-1 and B-2. All tables referenced on Figures B-1 and B-2 follow this text.

### Types of Water Charges

Charges to SWP water supply contractors include the costs of facilities for the conservation and development of a water supply and the conveyance of such supply to SWP service areas. These facilities are classified as "Project Conservation Facilities" and "Project Transportation Facilities" in the *Standard Provisions for Water Supply Contract*. Names of the main facilities in each classification follow.

#### Project Conservation Facilities

- Frenchman Dam and Lake
- Grizzly Valley Dam and Lake Davis
- Antelope Dam and Lake
- Oroville Dam and Lake Oroville
- Oroville power facilities
- Delta facilities
- A portion of the California Aqueduct from the Delta to Dos Amigos Pumping Plant
- Sisk Dam, San Luis Reservoir, and Gianelli Pumping-Generating Plant



### **Figure B-1 Relationships of Data Used to Substantiate Statements of Charges**

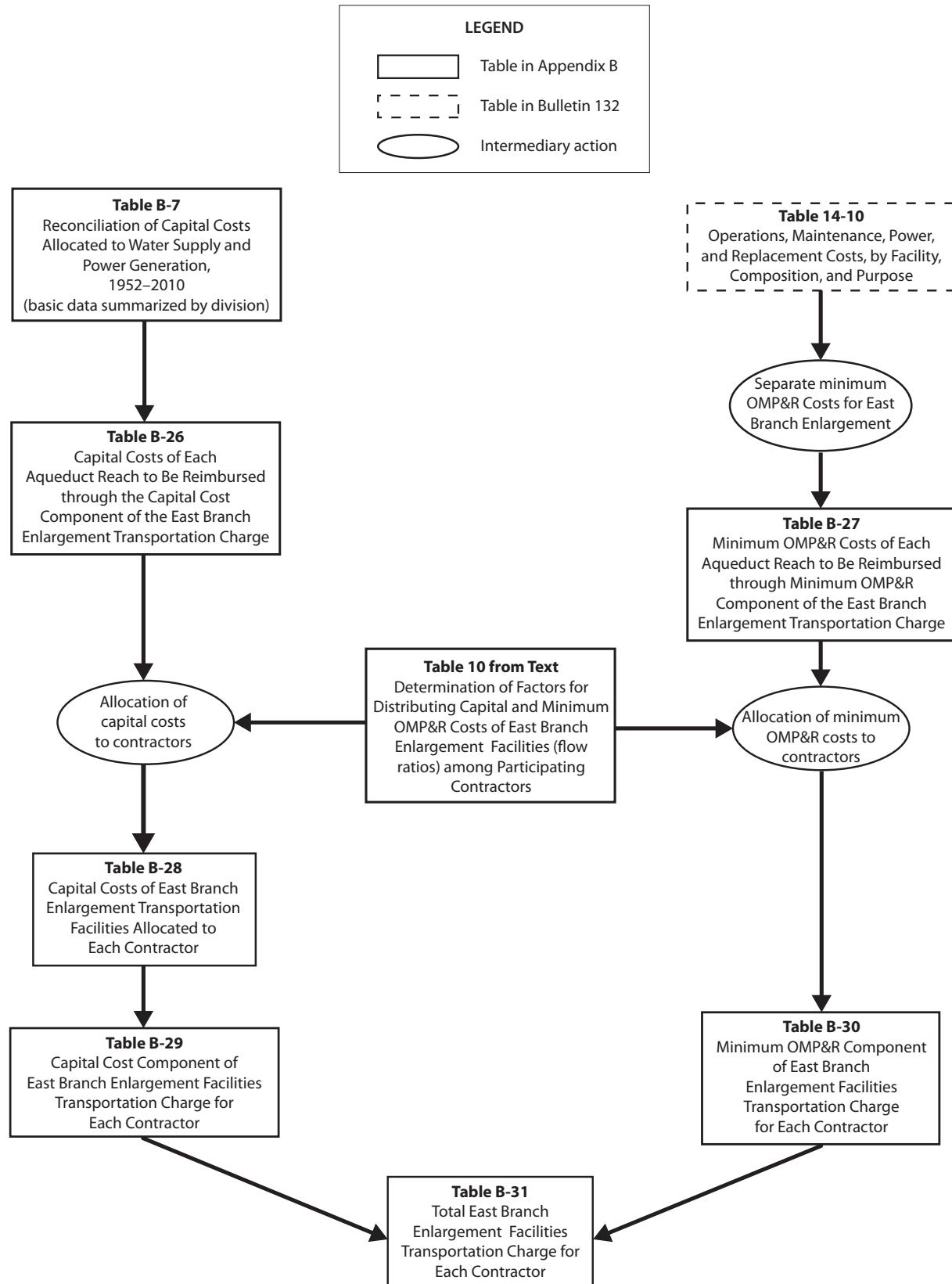


Figure B-2 Relationships of Data Used to Substantiate East Branch Enlargement Charges

## Project Transportation Facilities

- Grizzly Valley Pipeline
- North Bay Aqueduct
- South Bay Aqueduct, including Del Valle Dam and Lake del Valle
- the remainder of the California Aqueduct from the Delta to Dos Amigos Pumping Plant and all facilities south, including dams and lakes in Southern California
- Off-Aqueduct Power Facilities (Reid Gardner Unit No. 4, Bottlerock Powerplant, and South Geysers Powerplant)

The standard provisions provide for a Delta Water Charge and a Transportation Charge for project water.

The Delta Water Charge is a unit charge applied to each acre-foot of SWP water the contractors are to receive, in accordance with their contracts. The unit charge, if applied to each acre-foot of all such allocations for the remainder of the project repayment period, is calculated to result in repayment of all outstanding reimbursable costs of the Project Conservation Facilities, with appropriate interest, by the end of the repayment period (2035).

The Transportation Charge is for use of facilities to transport water to the vicinity of each contractor's turnout(s). Generally, the annual charge represents each contractor's proportionate share of the reimbursable capital costs and operating costs of the Project Transportation Facilities.

Each contractor's allocated share of those reimbursable capital costs is amortized for repayment to the State, and certain variations are allowed in the amortization methods. Contractors' shares of reimbursable operating costs are repaid in the year such costs are incurred by the State.

The East Branch Enlargement Transportation Charge is paid by the seven Southern California contractors participating in the enlargement. San Bernardino Valley Municipal Water District advanced funds to pay the district's allocated capital costs for the East Branch Enlargement. The remaining six contractors pay an allocated share of the debt service on revenue bonds sold to finance the enlargement. Each contractor will also pay an allocated share of the minimum operation, maintenance, power, and replacement (OMP&R) costs of the East Branch Enlargement.

Transportation charges for the Coastal Branch Extension, East Branch Extension, and South Bay Enlargement are being repaid by contractors in their respective service areas.

Transportation charges for the Tehachapi Afterbay are repaid by those contractors using electrical power for delivery of their Table A water downstream of the Tehachapi Afterbay.

## Composition and Timing of Water Charges

As shown on *Figure B-3*, the Delta Water Charge and the Transportation Charge consist of the following three components:

- (1) conservation and transportation capital cost components, which will return to the State all reimbursable capital costs;
- (2) conservation and transportation minimum OMP&R components, which will return to the State all reimbursable operating costs that do not depend on or vary with quantities of water actually delivered to the contractors; and
- (3) a transportation variable OMP&R component, which will return to the State all reimbursable operating costs that depend on and vary with quantities of water actually delivered to the contractors.

## **Delta Water Charge**

### *Capital Cost Component*

1. Planning, design, right-of-way, and construction costs of Conservation Facilities
2. Operations and maintenance (O&M) costs for newly constructed Conservation Facilities prior to initial operations
3. Activation costs for newly constructed Conservation Facilities
4. Power costs allocated to initial filling of San Luis Reservoir
5. Capitalized O&M costs (major repair work and so forth) for Conservation Facilities
6. Program costs (portion) to mitigate impacts on current Delta fishery population due to State Water Project (SWP) pumping prior to 1986  
(Department of Water Resources-Department of Fish and Game agreement)

### *Minimum Operations, Maintenance, Power, and Replacement (OMP&R) Component*

1. Direct O&M costs of Conservation Facilities
2. General O&M costs allocated to Conservation Facilities
  - a. Contractor Accounting Office (portion)
  - b. Financial and contract administration (portion)
  - c. Water rights
  - d. Power planning for SWP facilities (portion)
3. Replacement deposits for SWP control centers (portion)
4. Credits for a portion of Hyatt-Thermalito power generation
5. Power costs and credits related to pumping water to San Luis Reservoir for project operations (storage changes)
6. Value of power used and generated by Gianelli Pumping-Generating Plant
7. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Pumping Plant  
(Department of Water Resources-Department of Fish and Game agreement)

## **Transportation Charge**

### *Capital Cost Component*

1. Planning, design, right-of-way, and construction costs of Transportation Facilities
2. Operations and maintenance (O&M) costs for newly constructed Transportation Facilities prior to initial operation
3. Activation costs for newly constructed Transportation Facilities
4. Power costs allocated to initial filling of Southern California reservoirs
5. Capitalized O&M costs (e.g., major repair work) for Transportation Facilities
6. Program costs (portion) to mitigate impacts on current Delta fishery population due to SWP pumping prior to 1986  
(Department of Water Resources-Department of Fish and Game agreement)

### *Minimum OMP&R Component*

1. Direct O&M costs of Transportation Facilities
  - a. Headquarters and field divisions (portion)
  - b. Insurance and Federal Energy Regulatory Commission (FERC) costs (portion)
2. General O&M costs related to Transportation Facilities
  - a. Contractor Accounting Office (portion)
  - b. Financial and contract administration (portion)
  - c. Power planning for SWP facilities (portion)
3. Power costs and credits related to pumping water to Southern California reservoirs for project operations (storage changes)
4. Power costs for pumping water to replenish losses from Transportation Facilities
5. Other power costs
  - a. Station service at Transportation Facility power and pumping plants
  - b. Transmission service costs related to "backbone" Transportation Facilities
6. Replacement deposits for SWP control centers (portion)
7. Off-Aqueduct Power Facility costs—bond service, bond cover costs (25 percent of bond service), bond reserves, transmission costs to provide service to "backbone," fuel costs, taxes, and O&M—less power sales allocated to Off-Aqueduct Power Facilities
8. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Pumping Plant  
(Department of Water Resources-Department of Fish and Game agreement)

### *Variable OMP&R Component*

1. Power purchase costs
  - a. Capacity
  - b. Energy
  - c. Pine Flat Powerplant bond service, O&M, and transmission costs allocated to aqueduct pumping plants
2. Alamo, Devil Canyon, Warne, and Castaic power generation credited at the power plant reach and charged to aqueduct pumping plants
3. Hyatt-Thermalito Diversion Dam Powerplant generation charged to aqueduct pumping plants (credits for this generation are reflected in the Delta Water Rate)
4. Replacement deposits for equipment at pumping plants and power plants
5. Credits from sale of excess SWP system power
6. Program costs (portion) to offset annual fish losses resulting from pumping at Banks Pumping Plant  
(Department of Water Resources-Department of Fish and Game agreement)

Note: Excludes costs recovered under the East Branch Enlargement Transportation Charge.

**Figure B-3 Composition of Delta Water Charge and Transportation Charge**

The formula for computing the Delta Water Rate, Article 22(f) of the *Standard Provisions for Water Supply Contract*, was designed to ensure that all adjustments for prior overpayments or underpayments of the Delta Water Charge are accounted for in a redetermination of the rate. Since the redetermined rate applies to all future allocations, such adjustments are amortized during the remainder of the project repayment period. This appendix includes a redetermination of the Delta Water Rate for 2015.

Article 28 of the standard provisions stipulates that Transportation Charges be redetermined each year. The tables in Appendix B include the numerical data used in this redetermination. Transportation Charges for prior years through 2014, included in those tables, are the redetermined amounts and do not equal the amounts actually paid by contractors.

As provided under the Water System Revenue Bond Amendment to the water supply contracts, differences between actual payments under the Transportation capital cost component and amounts computed in this redetermination are accumulated with interest and amortized during the remaining years of the contract repayment period. All computations for adjustments are included in the attachments accompanying each contractor's Statement of Charges and are reflected in revised copies of Table C through Table G of the contract, which are also furnished to each SWP contractor in the annual Statements of Charges.

These redeterminations exclude four charges associated with water service other than the Delta Water Charge and the Transportation Charge. The excluded charges (and the manner in which they are treated in this appendix) are outlined below.

- (1) Advances of funds pursuant to Article 24(d) of the standard provisions

for excess capacity constructed by the State at the request of contractors.

- (2) Advances of funds pursuant to Article 10(d) of the standard provisions for delivery structures (turnouts) constructed by the State at the request of contractors. Partial information concerning actual and projected capital costs of such delivery structures is included in this appendix. Statements concerning these costs and data are furnished to the appropriate contractors at various times and are not part of the annual statements.
- (3) Payments for sale and service of surplus water to entities other than contractors, pursuant to Article 21 of the standard provisions, are also excluded. Those payments are generally based on the unit rates shown in Table B-25. Net revenues resulting from noncontractor service are applied as indicated on page 24 of Bulletin 132-71.
- (4) Payments under the Devil Canyon-Castaic contract for costs of the Devil Canyon-Castaic facilities allocable to power generation. Charges billed as a result of the contract are billed separately from those billed as a result of the water supply contract. Information about the treatment of such charges in relation to redetermined Transportation Charges is included in special attachments to the bills of the six participating contractors.

Time and method of payment for corresponding components of the Delta Water Charge and the Transportation Charge are as follows:

- (1) The capital cost components of the Delta Water Charge and the Transportation Charge are paid in two semiannual installments, due January 1 and July 1 of each year, based on statements furnished by the State on or before July 1 of the preceding year.

- (2) The minimum OMP&R components of the Delta Water Charge and the Transportation Charge are paid in 12 equal installments due the first of each month and based on statements furnished by the State on or before July 1 of the preceding year.
- (3) The variable OMP&R component of the Transportation Charge is paid in varying monthly amounts and is due the fifteenth day of the second month following actual water delivery. The charges are projected based on a unit charge per acre-foot established on or before July 1 of the preceding year. Those unit charges may be revised during the year to reflect current power costs and revenues. The unit charges are applied to actual monthly delivery quantities as determined by the State on or before the fifteenth day of the month following actual water delivery.

## Bases for Allocating Reimbursable Costs among Contractors

This section describes procedures for allocating reimbursable costs of Project Transportation Facilities among contractors (see upper right portion of Figure B-1). Those costs do not include annual costs of Off-Aqueduct Power Facilities, which are explained in the "Project Water Charges" section.

### Capital and Minimum OMP&R Costs

Figure B-4 includes information about the repayment reaches that form the basis for allocating reimbursable costs of the Project Transportation Facilities among contractors.

Allocations of reimbursable capital costs and minimum OMP&R costs of each reach are based on the proportionate maximum use of

that reach by respective contractors under planned conditions of full development.

The derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors was first reported in Bulletin 132-70. The ratios in Bulletin 132-70 were subsequently revised for the North Bay Aqueduct, the South Bay Aqueduct, the California Aqueduct from the Delta to Castaic Lake, and the Coastal Branch.

All the revisions reported in previous bulletins regarding the derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors were last reported in Tables B-1 and B-2 of Bulletin 132-91. Under Article 53 of the Monterey Amendment, agricultural contractors may sell up to 130,000 acre-feet of aqueduct capacity to municipal and industrial contractors. The first permanent transfer occurred in 1998. Currently, 114,000 acre-feet of the allowable capacity has been transferred. *Table 1* shows the permanent capacity transfers that have taken place since the Monterey Amendment was implemented in 1995.

*Table B-1* presents the reach ratios currently applicable to reimbursable capital costs. These reach ratios do not reflect the permanent capacity transfers.

*Table B-2* presents corresponding ratios for allocating 2015 and after reimbursable minimum OMP&R costs among contractors. Requested excess capacity is omitted when deriving ratios applicable to capital costs because the capital costs for the excess capacity are paid on an incremental-cost basis and not a proportionate-use basis. However, requested excess capacity is accounted for in the ratios applicable to minimum OMP&R costs.

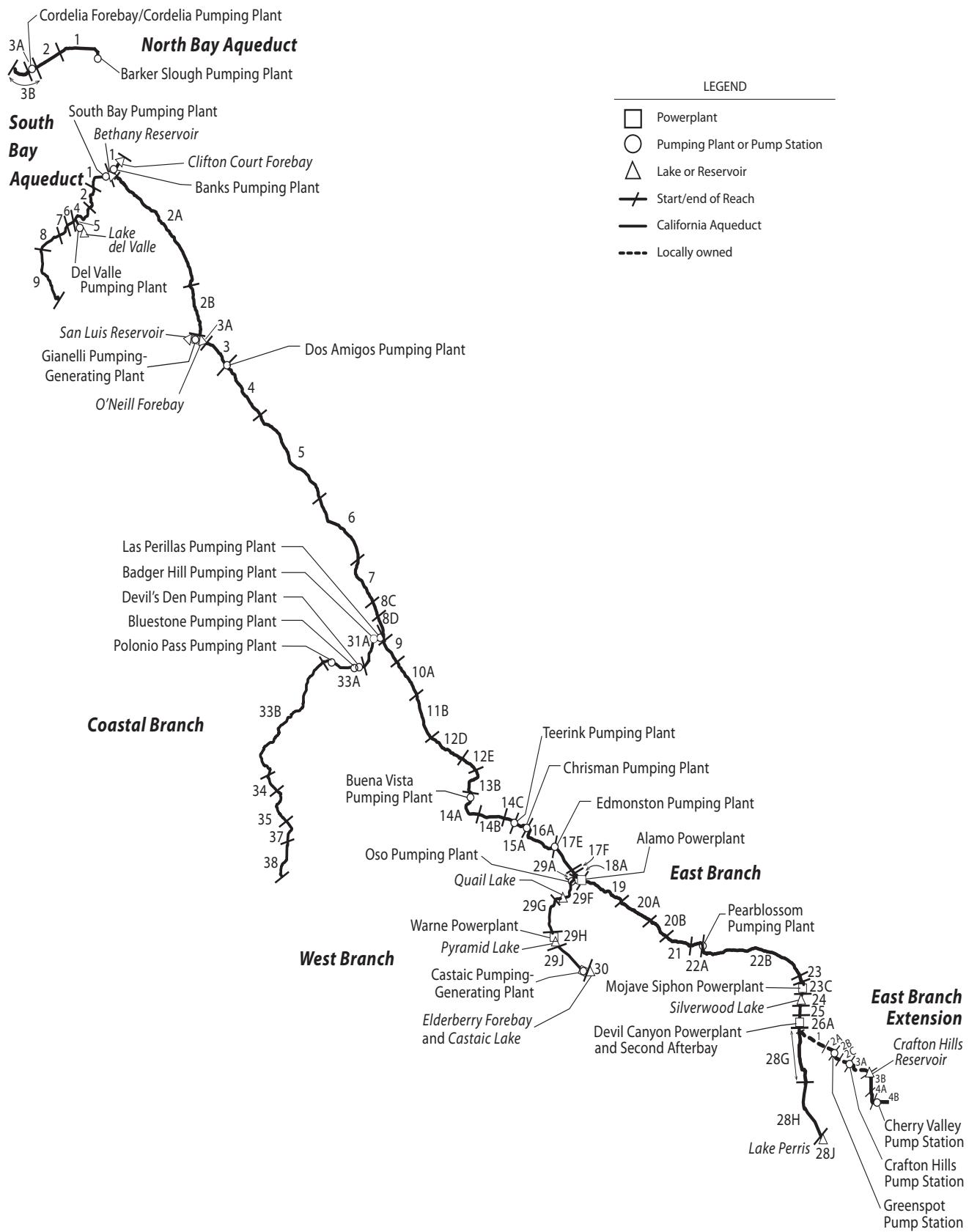


Figure B-4 Repayment Reaches and Descriptions

**North Bay Aqueduct**

- 1 Barker Slough through Fairfield/Vacaville Turnout
- 2 Fairfield/Vacaville Turnout to Cordelia Forebay
- 3A Cordelia Forebay through Benicia and Vallejo Turnouts
- 3B Cordelia Forebay through Napa Turnout Reservoir

**South Bay Aqueduct**

- 1 Bethany Reservoir through Altamont Turnout
- 2 Altamont Turnout through Patterson Reservoir
- 4 Patterson Reservoir to Del Valle Junction
- 5 Del Valle Junction through Lake del Valle
- 6 Del Valle Junction through South Livermore Turnout
- 7 South Livermore Turnout through Vallecitos Turnout
- 8 Vallecitos Turnout through Alameda-Bayside No. 1 Turnout
- 9 Alameda-Bayside No. 1 Turnout through Santa Clara Terminal Facilities

**California Aqueduct****North San Joaquin Division**

- 1 Delta through Bethany Reservoir
- 2A Bethany Reservoir to Orestimba Creek
- 2B Orestimba Creek to O'Neill Forebay

**San Luis Division**

- 3A Sisk Dam, San Luis Reservoir, and Gianelli Pumping-Generating Plant
- 3 O'Neill Forebay to Dos Amigos Pumping Plant
- 4 Dos Amigos Pumping Plant to Panoche Creek
- 5 Panoche Creek to Five Points
- 6 Five Points to Arroyo Pasajero
- 7 Arroyo Pasajero to Kettleman City

**South San Joaquin Division**

- 8C Kettleman City through Milham Avenue
- 8D Milham Avenue through Avenal Gap
- 9 Avenal Gap through Twisselman Road
- 10A Twisselman Road through Lost Hills
- 11B Lost Hills to 7th Standard Road
- 12D 7th Standard Road through Elk Hills Road
- 12E Elk Hills Road through Tupman Road
- 13B Tupman Road to Buena Vista Pumping Plant
- 14A Buena Vista Pumping Plant through Santiago Creek
- 14B Santiago Creek through Old River Road
- 14C Old River Road to Teerink Pumping Plant
- 15A Teerink Pumping Plant to Chrismen Pumping Plant
- 16A Chrismen Pumping Plant to Edmonston Pumping Plant

**Coastal Branch, California Aqueduct**

- 31A Avenal Gap to Devil's Den Pumping Plant
- 33A Devil's Den Pumping Plant through Tank 1
- 33B Tank 1 through Chorro Valley Turnout
- 34 Chorro Valley Turnout through Lopez Turnout
- 35 Lopez Turnout through Guadalupe Turnout
- 37 Guadalupe Turnout to SPRR crossing near Casmalia
- 38 SPRR crossing near Casmalia through terminous at Tank 5 (Outlet Vault)

**Tehachapi Division**

- 17E Edmonston Pumping Plant to Porter Tunnel
- 17F Porter Tunnel to Junction, West Branch

**Mojave Division**

- 18A Junction, West Branch through Alamo Powerplant
- 19 Alamo Powerplant to Fairmont
- 19C Buttes Junction through Buttes Reservoir
- 20A Fairmont through 70th Street West
- 20B 70th Street West to Palmdale
- 21 Palmdale to Littlerock Creek
- 22A Littlerock Creek to Pearblossom Pumping Plant
- 22B Pearblossom Pumping Plant to West Fork Mojave River
- 23 West Fork Mojave River to Silverwood Lake (excluding Mojave Siphon Powerplant)
- 23C Mojave Siphon Powerplant
- 24 Cedar Springs Dam and Silverwood Lake

**Santa Ana Division**

- 25 Silverwood Lake to South Portal, San Bernardino Tunnel
- 26A South Portal, San Bernardino Tunnel through Devil Canyon Powerplant and Second Afterbay
- 28G Devil Canyon Powerplant and Second Afterbay to Barton Road
- 28H Barton Road to Lake Perris
- 28J Perris Dam and Lake Perris

**East Branch Extension**

- 1 Devil Canyon Powerplant to Junction, Foothill Pipeline near Cone Camp Road
- 2A Junction, Foothill Pipeline near Cone Camp Road to Greenspot Pump Station
- 2B Greenspot Pump Station to Morton Canyon Valve Vault
- 2C Morton Canyon Valve Vault to Crafton Hills Pump Station
- 3A Crafton Hills Pump Station to Carter Street Valve Vault
- 3B Carter Street Valve Vault to Garden Air Creek, South of San Bernardino/Riverside County Line
- 4A Garden Air Creek to Cherry Valley Pump Station
- 4B Cherry Valley Pump Station to Terminus at Noble Creek

**West Branch, California Aqueduct**

- 29A Junction, California Aqueduct through Oso Pumping Plant
- 29F Oso Pumping Plant through Quail Embankment
- 29G Quail Embankment through Warne Powerplant
- 29H Pyramid Dam and Lake
- 29J Pyramid Lake through Castaic Powerplant
- 30 Castaic Dam and Lake

## Variable OMP&R Costs

Article 26(a) includes provisions to ensure that the variable OMP&R component of the Transportation Charge will result in a return to the State of those costs that depend on and vary with the amount of SWP water deliveries. (The minimum OMP&R component results in a return of those operating costs that do not vary with deliveries.) Under Article 26(a) all such costs for a reach for a given year will be allocated among contractors in proportion to the actual annual use of that reach by the respective contractors.

*Table B-3* summarizes the total power costs, credits, and transmission costs for each aqueduct pumping and power recovery plant. Variable costs are the following:

- Costs of capacity and energy used exclusive of associated power transmission and station service charges (transmission and station service costs that are independent and vary with power usage are classified as minimum OMP&R costs).
- Credits for capacity and energy produced at aqueduct power recovery plants (treated as negative costs).
- Payments for replacement of major plant machinery components having economic lives shorter than the project repayment period. (In 1997, DWR discontinued charging for a sinking fund for replacements. Replacement costs, for 1999 and thereafter, are to be paid on an annual basis as the costs are incurred.)
- Beginning in 2005, a portion of transmission expenditures that will depend on and vary with water and power usage. These costs will be included as part of the variable component.

Table B-3 excludes plant capacity and energy costs associated with surplus and unscheduled water service after May 1, 1973.

Prior to that date, surplus water service was charged the same unit variable OMP&R component as allocated water service. An amendment to the water supply contracts in 1973 significantly changed the rate structure for surplus water service. Capacity and energy costs for pumping surplus and unscheduled water were allocated directly to those SWP contractors receiving surplus and unscheduled water service. A contract amendment in 1991 again revised the rate structure to provide for payment of costs through a melded power rate. These revisions to charges for surplus and unscheduled water are effective from the date of the amendments and are not applied to past charges.

An interruptible water program was established in 1994. This program, later renamed as the Article 21 program, is based on individual annual contracts; costs for Article 21 water actually delivered are included in Table B-3.

## Water Conveyance

Tables B-4, B-5A, B-5A-Adj, B-5B, and B-6 present water conveyance quantities that form the basis for allocating costs.

*Table B-4* presents the schedules of annual allocations as set forth in Table A and Article 6(a) of each water supply contract.

*Table B-5A* shows amounts of actual and projected allocated water quantities delivered from each aqueduct reach to each contractor. Projected deliveries for years 2014 through 2035 are based on contractors' requests for future water deliveries. The quantities included in Table B-5A also include nonproject water delivered to contractors, surplus water deliveries prior to May 1, 1973, and actual Article 21 water deliveries in 1994 and thereafter.

**Table 1 Summary of Permanent Aqueduct Capacity Transfers**

| Contractor                                     |                | Capacity Transfer     |                |  |  |
|--|----------------|-----------------------|----------------|--|--|
| Seller   | Buyer          | Amount<br>(acre-feet) | Effective Year | Transfer Description                                     |  |
| <b>Transfers under Monterey Amendment</b>      |                |                       |                |  |  |
| Kern   | Mojave         | 25,000                | 1998           | Purchased capacity upstream from Reach 31A               |  |
| Kern   | Castaic Lake   | 41,000                | 2000           | Purchased capacity upstream from Reach 16A               |  |
| Kern   | Palmdale       | 4,000                 | 2000           | Purchased capacity upstream from Reach 11B               |  |
| Kern   | Alameda-Zone 7 | 7,000                 | 2000           | Purchased capacity upstream from Reach 10A               |  |
| Kern   | Alameda-Zone 7 | 15,000                | 2000           | Purchased capacity upstream from Reach 10A               |  |
| Kern   | Alameda-Zone 7 | 10,000                | 2001           | Purchased capacity upstream from Reach 11B               |  |
| Kern   | Solano         | 5,756                 | 2001           | Purchased capacity upstream from Reach 11B and Reach 31A |  |
| Kern   | Napa           | 4,025                 | 2001           | Purchased capacity upstream from Reach 11B and Reach 31A |  |
| Kern   | Alameda-Zone 7 | 2,219                 | 2004           | Purchased capacity upstream from Reach 11B               |  |
| <i>Subtotal under Article 53</i>               |                | <b>114,000</b>        |                |  |  |
| <b>Transfers outside of Monterey Amendment</b> |                |                       |                |  |  |
| Tulare   | Dudley Ridge   | 3,973                 | 2002           | Purchased capacity upstream from Reach 8D                |  |
| Tulare   | AVEK           | 3,000                 | 2002           | Purchased capacity upstream from Reach 8D                |  |
| Tulare   | Alameda-Zone 7 | 400                   | 2003           | Purchased capacity upstream from Reach 8D                |  |
| Tulare   | Kings          | 5,000                 | 2004           | Purchased capacity upstream from Reach 8D                |  |
| Tulare   | Coachella      | 9,900                 | 2004           | Purchased capacity upstream from Reach 8D                |  |
| Metropolitan                                   | Coachella      | 88,100                | 2005           | Purchased capacity upstream from Reach 28J               |  |
| Metropolitan                                   | Desert         | 11,900                | 2005           | Purchased capacity upstream from Reach 28J               |  |
| Tulare   | Kings          | 305                   | 2006           | Purchased capacity upstream from Reach 31A               |  |
| Tulare   | Desert         | 1,750                 | 2010           | Purchased capacity upstream from Reach 17F               |  |
| Tulare   | Coachella      | 5,250                 | 2010           | Purchased capacity upstream from Reach 17F               |  |
| Kern   | Desert         | 4,000                 | 2010           | Purchased capacity upstream from Reach 17F and Reach 31A |  |
| Kern   | Coachella      | 12,000                | 2010           | Purchased capacity upstream from Reach 17F and Reach 31A |  |
| Dudley Ridge                                   | Mojave         | 7,000                 | 2010           | Purchased capacity upstream from Reach 8D                |  |
| Dudley Ridge                                   | AVEK           | 1,993                 | 2014           | Purchased capacity upstream from Reach 8D                |  |
| Tulare   | AVEK           | 1,451                 | 2014           | Purchased capacity upstream from Reach 8D                |  |
| Dudley Ridge                                   | Mojave         | 3,000                 | 2015           | Purchased capacity upstream of Reach 8D                  |  |
| <i>Subtotal outside of Article 53</i>          |                | <b>159,022</b>        |                |  |  |

*Table B-5A-Adj* presents a summary of accounting adjustments that result from water deliveries not originating from the Sacramento-San Joaquin Delta. The methodologies used to calculate various components are based on cumulative charges from the Delta through facilities conveying water to a specific repayment reach. When water is introduced to the SWP downstream of the Delta, contractors require

an adjustment, or credit, for those facilities not used to convey the water.

*Table B-5B* presents a summary of actual and projected annual allocated water quantities for each contractor. The quantities also include amounts of nonproject water and surplus water delivered prior to May 1, 1973, and actual deliveries of Article 21 water in 1994 and thereafter.

Table B-6 summarizes the annual allocated water quantities conveyed or to be conveyed through each aqueduct pumping plant or power plant for each of the following functions:

- *Deliveries-Water Supply.* Water made available to contractors at down-aqueduct delivery structures, including certain hypothetical quantities to facilitate cost allocations, for those years when deliveries are made from net annual storage withdrawals. The net annual amounts of storage withdrawals are hypothetically added to the actual amounts conveyed from the Delta to the reservoirs, since deliveries made from storage withdrawals bear the same variable OMP&R costs per acre-foot as they would if the deliveries were actually conveyed from the Delta in that year. The hypothetical increases in the deliveries made from reservoir storage withdrawals are offset by equal credits to the minimum OMP&R costs of the respective reservoirs. Thus, the variable OMP&R components per acre-foot (Table B-17) may be applied to the total annual quantities delivered either from aqueduct reservoir storage or from the Delta.
- *Initial Fill Water.* Water required for initial filling of down-aqueduct reaches and reservoirs or for repayment of pre-consolidation water used during construction.
- *Deliveries-Recreation.* Water delivered to down-aqueduct recreation developments or used for fish and wildlife enhancement.
- *Operational Losses.* Water lost through evaporation and seepage from all down-aqueduct reaches.
- *Reservoir Storage Changes.* Water placed in down-aqueduct reservoir storage after initial filling of the reservoirs, including projected net annual storage accretions (positive values) and withdrawals (negative values) for all

down-aqueduct reservoirs of the Project Transportation Facilities.

Variable OMP&R costs (Table B-12) that are allocable to storage accretions are assigned to the minimum OMP&R costs of the respective reservoirs. With the exception of Banks Pumping Plant, "Reservoir Storage Changes" also includes SWP water placed into Southern California groundwater storage from 1978 through 1982 (as positive amounts); and water withdrawn from storage and delivered to contractors in 1979, 1982, 1987, 1988, and 1989 (as negative amounts). At Banks Pumping Plant, groundwater additions and withdrawals are included in "Conservation Water."

Table B-6 also summarizes the following two amounts under the heading *Conservation Water* (Column 25):

- (1) Net annual water amounts stored and projected to be stored in San Luis Reservoir.
- (2) Water lost and projected to be lost through evaporation and seepage from San Luis Reservoir and from the water conservation portion of the California Aqueduct.

"Conservation Water" includes initial fill water, operational losses, and net annual storage changes associated with San Luis Reservoir and the portion of the California Aqueduct that is allocated to conservation. The same allocation procedure outlined previously for Transportation Facilities also applies to water delivered from storage in Conservation Facilities, except that the hypothetical cost increases are added to the variable OMP&R cost to be reimbursed through the Transportation Charge and deducted from the minimum OMP&R costs to be reimbursed through the Delta Water Charge.

San Luis Reservoir is operated to conserve water for future delivery to downstream

contractors. To account for costs associated with reservoir storage, the power and replacement costs of Banks Pumping Plant (a joint Transportation-Conservation Facility) that are allocated to the conveyance of annual conservation water quantities are transferred to the capital costs of San Luis Reservoir (during initial fill) or to the minimum OMP&R costs of San Luis Reservoir (following initial fill).

In years of net storage withdrawal from San Luis Reservoir, a portion of the minimum OMP&R cost of the reservoir is transferred to the variable OMP&R cost of Banks Pumping Plant. That transfer is equal to the variable OMP&R cost per acre-foot of delivery through Banks Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year. Table B-6 also includes amounts of nonproject water and surplus water delivered prior to May 1, 1973, and actual deliveries of Article 21 water in 1994 and thereafter.

## Bases for Reimbursable Costs

This section describes the methods used to derive the costs allocated by the procedures outlined in the preceding section. A diagram of the cost derivation process is shown in the upper-left quadrant of Figure B-1.

First, the capital and minimum OMP&R costs of all SWP facilities are allocated among the various project purposes in accordance with the allocation percentages in *Table 2*. Those percentages may be subject to revision in the future.

The redeterminations in this appendix involve only the SWP costs that are allocated to water supply and power generation.

### Capital Costs

Capital costs used in the redeterminations in this appendix reflect prices prevailing on

December 31, 2013; future cost escalation will be reflected in subsequent bulletins.

*Table B-7* presents a reconciliation of estimated total capital costs of each Project Conservation Facility and each Project Transportation Facility. This table shows the relationship of Project Conservation and Transportation costs allocated to contractors (Tables B-8, B-9, B-10, and B-13) to the total SWP capital costs projected by DWR.

*Table B-8* shows costs incurred and projected to be incurred by the State in connection with each contractor's turnouts. Costs incurred by the State for both State-constructed and contractor-constructed delivery structures are paid directly by the contractors for which the structures are built. The State incurs design review and construction inspection costs in connection with contractor-constructed turnouts.

*Table B-9* lists costs and payments for excess capacity built into SWP Transportation Facilities in accordance with amendments to contracts with The Metropolitan Water District of Southern California (Metropolitan), San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency, including the following:

- additional costs incurred by the State for requested excess capacity;
- advances by SWP contractors of funds for such costs; and
- credits for advances in excess of costs which were applied to respective contractors' installments of the capital cost component of the Transportation Charge in 1981.

Under Amendment 2 of Metropolitan's contract, 809 cubic feet per second of excess capacity was originally constructed in reaches of the West Branch at Metropolitan's request. That capacity was reclassified as basic capacity of SWP Transportation

**Table 2 Project Purpose Cost Allocation Factors (Percentages)<sup>a</sup>**

| PROJECT FACILITIES  | Water Supply and Power Generation |                     | All Other Purposes (Nonreimbursable) |                     |
|---|-----------------------------------|---------------------|--------------------------------------|---------------------|
|   | Capital Costs                     | Minimum OMP&R Costs | Capital Costs                        | Minimum OMP&R Costs |
| <b>Project Conservation Facilities</b>  |                                   |                     |                                      |                     |
| Frenchman Dam and Lake  | 21.5                              | 0.0                 | 78.5                                 | 100.0               |
| Antelope Dam and Lake   | 0.0                               | 0.0                 | 100.0                                | 100.0               |
| Grizzly Valley Dam and Lake Davis   | 1.0                               | 1.8                 | 99.0                                 | 98.2                |
| Oroville Division <sup>b</sup>  | 97.1                              | 99.5                | 2.9                                  | 0.5                 |
| California Aqueduct, Delta to Dos Amigos Pumping Plant                        | 96.6                              | 96.7                | 3.4                                  | 3.3                 |
| Delta Facilities  |                                   |                     |                                      |                     |
| Peripheral Canal Related  | 86.0                              | 86.0                | 14.0                                 | 14.0                |
| Remaining of Delta Facilities   | 96.6                              | 96.7                | 3.4                                  | 3.3                 |
| <b>Transportation Facilities</b>  |                                   |                     |                                      |                     |
| Grizzly Valley Pipeline   | 100.0                             | 100.0               | 0.0                                  | 0.0                 |
| North Bay Aqueduct  | 100.0                             | 100.0               | 0.0                                  | 0.0                 |
| South Bay Aqueduct  |                                   |                     |                                      |                     |
| Del Valle Dam and Lake del Valle  | 25.2                              | 22.0                | 74.8 <sup>b</sup>                    | 78.0 <sup>c</sup>   |
| Remainder of South Bay Aqueduct   | 100.0                             | 100.0               | 0.0                                  | 0.0                 |
| California Aqueduct   |                                   |                     |                                      |                     |
| Delta to Dos Amigos Pumping Plant   | 96.6                              | 96.7                | 3.4                                  | 3.3                 |
| Dos Amigos Pumping Plant to termini (excluding Coastal Branch) <sup>e,f</sup> | 94.3 / 99.6                       | 96.9 / 99.6         | 5.7 / 0.4                            | 3.1 / 0.4           |
| Aqueduct and Plants <sup>e,f</sup>  | 94.3 / 99.6                       | 96.9 / 99.6         | 5.7 / 0.4                            | 3.1 / 0.4           |
| Pyramid Dam and Lake <sup>e,f</sup>   | 94.3 / 96.1                       | 96.9 / 96.1         | 5.7 / 3.9                            | 3.1 / 3.9           |
| Castaic Dam and Lake <sup>e,f</sup>   | 94.3 / 91.1                       | 96.9 / 91.1         | 5.7 / 8.9                            | 3.1 / 8.9           |
| Silverwood Dam and Lake <sup>e,f</sup>  | 94.3 / 85.3                       | 96.9 / 85.3         | 5.7 / 14.7                           | 3.1 / 14.7          |
| Perris Dam and Lake <sup>e,f</sup>  | 94.3 / 67.7                       | 96.9 / 67.7         | 5.7 / 32.3                           | 3.1 / 32.3          |
| Coastal Branch  | 100.0                             | 100.0               | 0.0                                  | 0.0                 |

<sup>a</sup> Percentages indicated apply to the majority of the facilities with minor exceptions.<sup>b</sup> Percentages indicated are applicable to the remaining costs of division after excluding costs allocated to flood control that are reimbursed by the federal government (22 percent of capital costs) and excluding specific power costs of Hyatt and Thermalito powerplants and switchyards.<sup>c</sup> Percentage indicated consists of 48.0 percent of costs allocated to recreation and 26.8 percent to flood control.<sup>d</sup> Percentage indicated consists of 44.9 percent of costs allocated to recreation and 33.1 percent to flood control.<sup>e</sup> Percentage indicated is used for 2012 and previous years.<sup>f</sup> Percentage indicated is used for 2013 and forward.

Facilities under Amendment 7. Metropolitan paid \$16.3 million as a prepayment of the capital cost component of the Transportation Charge in lieu of advancing funds for the original requested capacity.

Amendment 5 to Metropolitan's contract requires that additional costs for modifications to the Santa Ana Pipeline (required for enlargement of Lake Perris) will be allocated to Metropolitan and returned

to the State through payments of the Transportation Charge. The additional costs to be repaid through Metropolitan's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total about \$6.7 million (see Bulletin 132-72, page 98).

*Table B-10* presents the actual and projected annual capital costs of each aqueduct reach that will eventually be returned to the

State, with interest, through contractors' payments of the capital cost component of the Transportation Charge and payment of debt service under the Devil Canyon-Castaic contracts.

## Annual Operating Costs

Annual operating costs allocable to water supply and power generation are returned to the State through the minimum OMP&R components of the Delta Water Charge and the Transportation Charge and through a portion of the revenues from energy sales. All reimbursable operating costs of Conservation Facilities are included in the minimum OMP&R component of the Delta Water Charge.

## Transportation and Devil Canyon-Castaic Contract Costs

*Table B-11* shows the amounts of the actual and projected costs to be reimbursed through payments of the minimum OMP&R component of the Transportation Charge and allocated operating costs under the Devil Canyon-Castaic contract. The table includes the following seven types of operating costs incurred annually that do not vary with water quantities delivered to the contractors:

- (1) all direct labor charges for field operation and maintenance personnel, including associated indirect costs;
- (2) a distributed share of general operating costs that cannot be identified solely with one facility or aqueduct reach;
- (3) all of electric power transmission and station service costs up to 2004, and electric power transmission and station service costs for 2005 and after that do not vary with power usage allocable to aqueduct pumping and recovery plants;
- (4) all costs for equipment, materials, and supplies;
- (5) portions of the power and replacement costs of all up-aqueduct pumping plants and power plants that are allocable

to the annual conveyance of water lost to evaporation and seepage from respective aqueduct reaches or placed into storage in respective reservoirs of the project transportation facilities (after initial fill);

- (6) credits, which offset those costs in (5) above, for deliveries drawn from reservoir storage; and
- (7) escalation of projected operating costs at 12.5 percent per year for 2014, 4.5 percent for 2015 and 2016, and escalation of projected operating costs at 1 percent per year for 2017-2035.

*Table B-12* shows the portions of variable OMP&R costs in *Table B-3* that are allocable to the water supply delivery quantities included in *Table B-6* and reimbursed through payments of the variable OMP&R component of the Transportation Charge.

To derive *Table B-12* costs, the following adjustments are made to *Table B-3* costs.

- (1) Part of the variable OMP&R costs of each plant is allocated to recreation. The allocation to recreation is in proportion to the quantity of water conveyed through each plant each year for delivery to on-shore recreational developments. That portion of variable plant costs attributable to the initial fill of aqueduct reaches is allocated to the joint capital costs of respective down-aqueduct reaches and reservoirs.
- (2) That portion of costs attributable to evaporation and seepage is allocated to the joint minimum OMP&R costs of respective down-aqueduct reaches and reservoirs.
- (3) Adjustments are made for additions or withdrawals from storage in aqueduct reservoirs. In years when water is added to storage in aqueduct reservoirs, the cost of conveying this water into storage is charged to the minimum OMP&R costs of the corresponding reservoir. In years when storage in

aqueduct reservoirs is decreased for the purpose of making deliveries, a credit is applied to the minimum OMP&R costs of the reservoir from which the storage is released. This credit is equal to the number of acre-feet of storage reduction times the variable OMP&R unit rate for the year the storage is released. The unit rate is equal to the variable OMP&R unit rate for the year the water is taken from storage.

- (4) That portion of costs attributable to pumping water to replace evaporation and seepage losses and for additions or withdrawals from storage in San Luis Reservoir is charged to the minimum OMP&R component of the Delta Water Rate.

The remaining costs are allocated to transportation water supply and repaid by the contractors.

## Conservation Capital and Operating Costs

*Table B-13* is a summary of actual and projected capital and operating costs of the initial Project Conservation Facilities. These costs are reimbursed through payments by contractors under the Delta Water Charge, Oroville power sales, and Gianelli Pumping-Generating Plant credits. *Table B-13* also shows credits applied to the reimbursable capital costs of the initial Project Conservation Facilities in accordance with negotiated settlements concerning incurred planning costs for the period from 1952 through 1978.

## Project Water Charges

This section describes the redetermination of past and projected components of the Transportation Charge for annual revision of Tables C through G of each water supply contract. This section also describes the derivation of the unit Delta Water Rates and the Water System Revenue Bond Surcharge.

A summary of equivalent unit charges for each acre-foot of allocated water service is also included for each contractor and each aqueduct reach. A diagram of all calculations may be found on the lower half of Figure B-1.

## Transportation Charges

The accumulation of allocated costs of each aqueduct reach to each contractor is the basis for the Transportation Charge components.

*Table B-14* summarizes each contractor's share of the capital costs of the aqueduct reaches presented in *Table B-10*. Those amounts are determined by applying proportionate-use ratios set forth in *Table B-1* to the costs in *Table B-10*. The resulting allocated costs are set forth in Table C of the respective water supply contracts.

Prepayments of the capital cost component, required under Metropolitan's Amendment 7, are included as negative capital costs in *Table B-14* and Table C of Metropolitan's Statement of Charges. Solano County Water Agency, Empire-West Side Irrigation District, and Castaic Lake Water Agency also prepaid capital costs (see *Table B-14* footnotes). *Table B-14* includes costs of the East Branch Extension to provide water service to San Bernardino Valley Municipal Water District (San Bernardino) and San Gorgonio Pass Water Agency (San Gorgonio).

Both *Table B-14* and Table C of the six contractors for project water service below Devil Canyon Powerplant and Castaic Powerplant include the capital costs reimbursable under the Devil Canyon-Castaic contract.

*Table B-15* summarizes capital cost components of the Transportation Charge for each contractor for each year of the project repayment period. By the year 2035, the capital cost components shown in

Table B-15 will recover the costs shown in Table B-14, with interest at the Project Interest Rate of 4.610 percent per annum and based on the amortization schedules included in *Table 3*.

Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table D of the water supply contracts. Costs of excess capacity are billed separately and are not included in Table B-15.

Table B-15 includes the debt service payments due from the six contractors down-aqueduct from Devil Canyon Powerplant and Castaic Powerplant, in accordance with terms of the Devil Canyon-Castaic contract.

*Table B-16A* summarizes the minimum OMP&R components of the Transportation Charge for each year of the project repayment period. Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table E of the respective water supply contracts.

The total amounts included in Table B-16A are determined by applying the proportionate-use ratios in Table B-2 to the reach costs in Table B-11.

Table B-16A excludes Off-Aqueduct Power Facility charges, which are included separately in Table B-16B. Both Table B-16A and Table E include the operating costs payable under the Devil Canyon-Castaic contract for the six contractors down-aqueduct from Devil Canyon Powerplant and Castaic Powerplant.

As part of operating agreements with DWR, Kern County Water Agency was billed from 1963 through 1987 for any additional operating costs caused by early installation of units in Las Perillas and Badger Hill pumping plants by Berrenda Mesa Water

**Table 3 Criteria for Amortizing Capital Costs of Transportation Facilities**

| Contractor   | Year of Initial Payment <sup>a</sup> |
|--|--------------------------------------|
| Alameda County Flood Control and Water Conservation District, Zone 7 | 1963 <sup>b</sup>                    |
| Alameda County Water District  | 1963                                 |
| Antelope Valley-East Kern Water Agency                               | 1963                                 |
| Castaic Lake Water Agency  | 1964                                 |
| City of Yuba City  | <sup>c</sup>                         |
| Coachella Valley Water District                                      | 1964                                 |
| County of Butte  | <sup>c</sup>                         |
| County of Kings  | 1968                                 |
| Crestline-Lake Arrowhead Water Agency                                | 1964                                 |
| Desert Water Agency  | 1963 <sup>d</sup>                    |
| Dudley Ridge Water District  | 1968 <sup>e</sup>                    |
| Empire West Side Irrigation District                                 | 1968 <sup>e</sup>                    |
| Kern County Water Agency   |                                      |
| Agricultural Use   | 1968 <sup>e</sup>                    |
| Municipal and Industrial Use   | 1968 <sup>e</sup>                    |
| Little Rock Creek Irrigation District                                | 1964                                 |
| The Metropolitan Water District of Southern California               | 1963                                 |
| Mojave Water Agency  | 1964                                 |
| Napa County Flood Control and Water Conservation District            | 1966                                 |
| Oak Flat Water District  | 1968                                 |
| Palmdale Water District  | 1964                                 |
| Plumas County Flood Control and Water Conservation District          | 1970                                 |
| San Bernardino Valley Municipal Water District                       | 1963                                 |
| San Gabriel Valley Municipal Water District                          | 1963 <sup>d</sup>                    |
| San Gorgonio Pass Water Agency                                       | 1963 <sup>d</sup>                    |
| San Luis Obispo County Flood Control and Water Conservation District | 1964 <sup>f</sup>                    |
| Santa Barbara County Flood Control and Water Conservation District   | 1964                                 |
| Santa Clara Valley Water District                                    | 1963                                 |
| Solano County Water Agency   | 1973                                 |
| Tulare Lake Basin Water Storage District                             | 1968 <sup>e</sup>                    |
| Ventura County Watershed Protection District                         | 1964                                 |

<sup>a</sup> Allocated capital costs of transportation facilities amortized in equal annual installments unless otherwise noted.

<sup>b</sup> Principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.

<sup>c</sup> For City of Yuba City and County of Butte, payments for Delta Water Charge only.

<sup>d</sup> Payment deferred for 1963 and added to 1964 payment with accrued interest.

<sup>e</sup> For Dudley Ridge, Empire, Kern (agricultural use), Oak Flat, and Tulare, according to Article 45 of the contracts for supply of agricultural water, capital costs of transportation facilities allocated to agricultural water supply are amortized by using an equivalent unit rate per acre-foot applied to the annual allocations (Table B-4) through the project repayment period.

<sup>f</sup> For San Luis Obispo and Santa Barbara, all principal and interest payments for costs of the Coastal Stub were deferred until 1976.

Storage District (see Bulletin 132-71, page 7). Under those agreements, a portion of minimum OMP&R costs of Reach 31A were assigned directly to Kern, as shown in *Table 4*, with the remaining reach costs allocated by application of the proportionate-use ratios. DWR purchased the last unit, Unit No. 6, at Las Perillas and Badger Hill pumping plants in early 1997 to provide

**Table 4 Minimum OMP&R Costs of Reach 31A Assigned Directly to Kern County Water Agency (in dollars)**

| Year         | Direct Charges   |
|--------------|------------------|
| 1969         | 46,511           |
| 1970         | 46,302           |
| 1971         | 140,074          |
| 1972         | 95,017           |
| 1973         | 72,454           |
| 1974         | 100,692          |
| 1975         | 127,456          |
| 1976         | 138,504          |
| 1977         | 120,753          |
| 1978         | 157,652          |
| 1979         | 121,231          |
| 1980         | 150,728          |
| 1981         | 75,866           |
| 1982         | 82,805           |
| 1983         | 90,007           |
| 1984         | 107,468          |
| 1985         | 159,406          |
| 1986         | 137,241          |
| 1987         | 127,073          |
| 1988         | 130,924          |
| 1989         | 128,468          |
| 1990         | 138,234          |
| 1991         | 139,527          |
| 1992         | 185,370          |
| 1993         | 219,334          |
| 1994         | 364,196          |
| 1995         | 272,341          |
| 1996         | 322,123          |
| <b>Total</b> | <b>3,997,767</b> |

pumping capacity for deliveries to Coastal Area contractors, which began in 1997.

As a result of the Monterey Amendment, the costs related to this settlement are to be allocated among all SWP contractors in proportion to their maximum Table A amounts. As costs are incurred, related charges will be included in the contractors' annual Statements of Charges as part of the minimum. Between 2002 and 2010, the Monterey Amendment litigation costs recovered from SWP contractors were \$15.8 million.

*Table B-16B* summarizes annual Off-Aqueduct Power Facility charges allocated to each water contractor, adjusted for prior overpayments or underpayments. Those charges are to repay all Off-Aqueduct Power costs, including bond service, deposits for reserves, operation and maintenance costs, fuel costs, taxes, and insurance.

Adopted October 1, 1979, the General Bond Resolution requires that sufficient revenues be collected each year to repay all of those costs. In addition, an amount totaling 25 percent of the annual bond service is collected each year to ensure that sufficient funds are available to cover all annual costs. Any revenues collected and not needed during the year are refunded to the contractors in the next year.

*Table 5* summarizes Off-Aqueduct Power Facility charges and credits related to deliveries for 2013. The Reid Gardner Powerplant Closure costs related to the Reid Gardner Powerplant contract expiration in 2013 are tracked independently from annual Reid Gardner operating costs.

*Table 6* shows projected Off-Aqueduct Power Facility charges and an amount equal to 25 percent of annual bond service for 2014 through 2035.

**Table 5 Summary of 2013 Off-Aqueduct Power Facility Charges and Credits (in dollars)**

| <b>Charges by Item</b>     |                   |
|----------------------------|-------------------|
| Reid Gardner Powerplant    | 39,013,517        |
| Reid Gardner Closure Costs | 16,257,353        |
| Bottle Rock Powerplant     | 16,407,583        |
| South Geysers Powerplant   | 7,342,245         |
| <i>Subtotal</i>            | <b>79,020,698</b> |
| <b>Credits by Item</b>     |                   |
| Power Sales                | (1,069,400)       |
| <b>Net Total Charge</b>    | <b>77,951,298</b> |

**Table 6 Projected Charges for Off-Aqueduct Power Facilities (in dollars)**

| <b>Year</b> | <b>Total Annual Cost</b> | <b>25 Percent Bond Cover</b> |
|-------------|--------------------------|------------------------------|
| 2014        | 43,856,442               | 3,940,739                    |
| <b>2015</b> | <b>21,332,906</b>        | <b>2,307,581</b>             |
| 2016        | 9,917,696                | 1,978,590                    |
| 2017        | 9,728,690                | 1,940,789                    |
| 2018        | 3,914,799                | 778,011                      |
| 2019        | 3,905,256                | 776,102                      |
| 2020        | 4,239,144                | 842,880                      |
| 2021        | 6,193,301                | 1,233,711                    |
| 2022        | 5,865,991                | 1,168,249                    |
| 2023        | 4,304,706                | 855,992                      |
| 2024        | 3,218,876                | 638,826                      |
| 2025        | 526,990                  | 100,449                      |
| 2026        | 660,980                  | 127,247                      |
| 2027        | 983,864                  | 191,824                      |
| 2028        | 682,671                  | 131,585                      |
| 2029        | 679,508                  | 130,953                      |
| 2030        | 203,730                  | 35,797                       |
| 2031        | 203,261                  | 35,703                       |
| 2032        | 208,542                  | 36,759                       |
| 2033        | 206,917                  | 36,434                       |
| 2034        | 204,964                  | 36,044                       |
| 2035        | 208,933                  | 36,838                       |

Annual Off-Aqueduct Power Facility charges are allocated among contractors in proportion to the electrical energy required to pump allocated water for the year. The initial allocation for the Statements of Charges is based on estimates of energy to pump requested allocated water deliveries, based on a 60-percent allocation.

An interim adjustment in the allocation of Off-Aqueduct Power costs may be made in May of each year, based on updated cost estimates and April revisions in water delivery schedules. An additional adjustment is made the following year based on actual water deliveries and actual costs for the year.

The energy required to pump each contractor's water is calculated using the kilowatt-hour per acre-foot factors shown in *Table 7* for the pumping plants upstream from the delivery turnouts. The amounts shown include transmission losses.

*Table B-17* presents a summary of actual and projected total variable OMP&R costs for each acre-foot conveyed through each aqueduct pumping plant and power plant for each year of the project. Following are provisions for calculating the variable OMP&R component of the Transportation Charge:

- An annual charge per acre-foot of projected water deliveries to all contractors served from or through each reach is determined so the projected variable OMP&R costs to be incurred for each reach will be returned to the State.
- The total annual variable OMP&R component for any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water actually delivered from or through the reach to the contractor.

The data summarized in *Table B-17* are derived by dividing the costs shown in *Table B-3* by the water quantities shown in

**Table 7 Kilowatt-Hour per Acre-Foot Factors for Allocating Off-Aqueduct Power Facility Costs**

| <b>Pumping Plant</b>            | <b>kWh per acre-foot<sup>a</sup></b> |                              |
|---------------------------------|--------------------------------------|------------------------------|
|                                 | <b>At Plant</b>                      | <b>Cumulative from Delta</b> |
| Barker Slough                   | 223                                  | 223                          |
| Cordelia-Benicia                | 434                                  | 657                          |
| Cordelia-Vallejo                | 178                                  | 401                          |
| Cordelia-Napa                   | 563                                  | 786                          |
| Banks (Delta)                   | 296                                  | 296                          |
| South Bay (including Del Valle) | 869                                  | 1,165                        |
| Dos Amigos                      | 138                                  | 434                          |
| Buena Vista                     | 242                                  | 676                          |
| Teerink                         | 295                                  | 971                          |
| Chrisman                        | 639                                  | 1,610                        |
| Edmonston                       | 2,236                                | 3,846                        |
| Pearblossom                     | 703                                  | 4,549                        |
| Greenspot                       | 871                                  | 5,420                        |
| Crafton Hills                   | 1,087                                | 6,507                        |
| Cherry Valley                   | 224                                  | 6,731                        |
| Oso                             | 280                                  | 4,126                        |
| Las Perillas                    | 77                                   | 511                          |
| Badger Hill                     | 200                                  | 711                          |
| Devil's Den                     | 705                                  | 1,416                        |
| Bluestone                       | 705                                  | 2,121                        |
| Polonio Pass                    | 705                                  | 2,826                        |

<sup>a</sup>Includes transmission losses.

Table B-6. However, certain costs included in Table B-3 for extra peaking service, which would otherwise constitute variable OMP&R costs, are assigned directly to contractors requesting this type of service (see Bulletin 132-71, page 21, and Water Service Contractors Council Memo No. 593, July 10, 1970). Those costs are excluded from the unit charges shown in Table B-17. Peaking charges based on additional capacity ceased in 1983. Since 1984, costs are based on power market energy rates. The amounts of extra peaking charges for additional power costs are shown in *Tables 8 and 9*.

Unit rates shown in Table B-17 constitute the rates for the pumping plants and power plants listed. The cumulative rates constitute the total rates, cumulative from the Sacramento-San Joaquin Delta, and are applicable to deliveries from or downstream of the pumping plants and power plants. Extra peaking service costs are excluded.

*Table B-18* shows the variable OMP&R components of the Transportation Charge for each contractor for each year of the project repayment period. Table B-18 is developed from the costs per acre-foot included in Table B-17 and the delivery quantities for each contractor from each reach as indicated in Table B-5A and Table B-5A-Adj, plus any costs for extra peaking service. Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table F of the respective water supply contracts.

*Table B-19* summarizes the annual Transportation Charges for each contractor (the sum of the corresponding amounts included in Tables B-15, B-16A, B-16B, and B-18). Those estimated payments, subsequently adjusted for prior overpayments or underpayments, are set forth in Table G of the respective water supply contracts.

In accordance with provisions of the Devil Canyon-Castaic contract, Table B-19 and Table G include amounts of debt service and operating cost payments due from the six contractors located down-aqueduct from Devil Canyon and Castaic powerplants.

## Delta Water Charges

*Table B-20A* presents the calculation of the Delta Water Rate for the initial Conservation Facilities applicable in 2015 in accordance with the amended Article 22(e) and 22(g) of all 29 water supply contracts. The Delta Water Rate was calculated at a Project Interest Rate of 4.610 percent, based on

Conservation Facility costs shown in Table B-13. That Delta Water Rate is used to compute projected Delta Water Charges under Article 53(i) for the contractors who have executed the Monterey Amendment. Included in Table B-20A is the Delta Water Rate for the two contractors who have not executed the Monterey Amendment: Plumas County Flood Control and Water Conservation District and Empire West Side Irrigation District.

*Table B-20B* shows each component of the 2015 Delta Water Rate from Table B-20A.

*Table B-21* summarizes the annual Delta Water Charge for each contractor. The projected charges in Table B-21 are developed by multiplying the total rate per acre-foot, as shown in Table B-20A, by the amount of allocated water for each contractor, as shown in Table B-4.

The projected Delta Water Charges from 2015-2035 include the following assumptions:

- (1) Escalation of projected operating costs at 4.5 percent per year for 2015 and 2016.
- (2) Escalation of projected operating costs at 1.0 percent per year for 2017-2035.

## Water System Revenue Bond Surcharge

*Table B-22* summarizes the Water System Revenue Bond (WSRB) Surcharge to the Delta Water Charge and the transportation capital cost component for each contractor. The surcharge shown in Table B-22 includes the financing costs of the WSRB Surcharge, Series B through Series AE. This surcharge is levied according to an amendment to the water supply contracts, which was signed by all of the water supply contractors.

## Total Water Charges

*Table B-23* summarizes the total annual charges to each contractor (the sum of the Transportation Charge in Table B-19, the Delta Water Charge in Table B-21, and the WSRB Surcharge in Table B-22). The charges do not reflect past payments by contractors and are unadjusted for prior overpayments or underpayments.

## Equivalent Total Water Charges

*Table B-24* presents the Transportation Charge and Delta Water Charge in terms of the equivalent unit charge for each acre-foot of allocated water now projected for delivery to the respective contractors.

These equivalent charges would provide the same principal sum at the end of the project repayment period as annual payments to be made as part of the Delta Water Charge and Transportation Charge, plus interest at the Project Interest Rate, if applied to each acre-foot of allocated water delivered to date; all surplus water delivered prior to May 1, 1973; all Article 21 water deliveries in 1994 and thereafter; and all allocated water now projected to be delivered during the remainder of the project repayment period (Table B-5B).

The equivalent unit Delta Water Charges included in Table B-24 are greater than those presented in Table B-20A because current projections of allocated water service are less for most contractors than the amounts shown in Table A.

## Equivalent Water Costs by Reach

*Table B-25* presents a summary of the equivalent unit transportation cost of conveying allocated water through respective aqueduct reaches of the Project Transportation Facilities.

Those unit costs provide the basis of charges assessed for extra service (such

**Table 8 Extra Peaking Charges for Additional Power, by Pumping Plant (in dollars)**

| Year         | Cordelia Napa | Cordelia Solano | Barker Slough | South Bay     | Banks            | Dos Amigos     | Badger Hill   | Las Perillas and Badger Hill | Buena Vista   | Teerink       | Chrisman       | Edmonston     | Pearblossom | Oso              | Total   |
|--------------|---------------|-----------------|---------------|---------------|------------------|----------------|---------------|------------------------------|---------------|---------------|----------------|---------------|-------------|------------------|---------|
| 1972         | 0             | 0               | 0             | 0             | 0                | 10,579         | 24,700        | 0                            | 0             | 0             | 0              | 0             | 0           | 0                | 35,279  |
| 1973         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 6,016                        | 0             | 0             | 0              | 0             | 0           | 0                | 6,016   |
| 1974         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 7,140                        | 0             | 0             | 0              | 0             | 0           | 0                | 7,140   |
| 1975         | 0             | 0               | 0             | 0             | 0                | 0              | 494           | 6,397                        | 0             | 0             | 0              | 0             | 0           | 0                | 6,891   |
| 1976         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 1,981                        | 0             | 0             | 0              | 0             | 0           | 0                | 1,981   |
| 1977         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 0                            | 0             | 0             | 0              | 0             | 0           | 0                | 0       |
| 1978         | 0             | 0               | 0             | 0             | 0                | 0              | 45,145        | 3,680                        | 0             | 0             | 0              | 0             | 0           | 0                | 48,825  |
| 1979         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 3,306                        | 0             | 0             | 0              | 0             | 0           | 0                | 3,306   |
| 1980         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 0                            | 0             | 0             | 0              | 0             | 0           | 0                | 0       |
| 1981         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 12,126                       | 0             | 0             | 0              | 0             | 0           | 0                | 12,126  |
| 1982         | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 89,339                       | 0             | 0             | 0              | 0             | 0           | 0                | 89,339  |
| 1983         | 0             | 0               | 0             | 0             | 35               | 7,594          | 3,534         | 152                          | 0             | 0             | 0              | 0             | 0           | 0                | 11,315  |
| 1984         | 0             | 0               | 0             | 0             | 2,096            | 84,396         | 38,607        | 7,203                        | 11,173        | 3,823         | 3,593          | 0             | 0           | 0                | 150,891 |
| 1985         | 0             | 0               | 0             | 0             | 1,480            | 19,612         | 8,841         | 763                          | 4,488         | 4,412         | 8,929          | 28,353        | 0           | 0                | 76,878  |
| 1986         | 0             | 0               | 0             | 0             | 0                | 1,864          | 863           | 0                            | 291           | 354           | 766            | 2,683         | 0           | 0                | 6,821   |
| 1987         | 0             | 0               | 0             | 0             | 604              | 17,129         | 7,838         | 835                          | 2,295         | 1,806         | 3,460          | 11,058        | 0           | 0                | 45,025  |
| 1988         | 639           | 39              | 287           | 894           | 43,475           | 20,082         | 2,213         | 5,792                        | 4,367         | 8,277         | 8,277          | 25,886        | 0           | 0                | 111,946 |
| 1989         | 2,491         | 566             | 1,483         | 70            | 40,251           | 18,642         | 1,935         | 3,401                        | 1,531         | 2,058         | 3,793          | 0             | 0           | 0                | 76,221  |
| 1990         | 45            | 0               | 18            | 343           | 19,524           | 9,044          | 0             | 150                          | 145           | 314           | 643            | 0             | 0           | 0                | 30,226  |
| 1991         | 903           | 0               | 281           | 0             | 21               | 8              | 0             | 15                           | 17            | 39            | 139            | 41            | 0           | 0                | 1,464   |
| 1992         | 208           | 117             | 203           | 0             | 7,070            | 2,502          | 0             | 182                          | 190           | 435           | 0              | 0             | 0           | 0                | 10,907  |
| 1993         | 0             | 681             | 889           | 4,483         | 123,080          | 54,741         | 0             | 8,898                        | 5,458         | 10,900        | 35,068         | 11,139        | 0           | 0                | 255,337 |
| 1994         | 0             | 366             | 393           | 679           | 6,566            | 2,795          | 454           | 1,083                        | 155           | 357           | 1,121          | 0             | 0           | 132              | 14,101  |
| 1995         | 0             | 0               | 0             | 1,717         | 24,464           | 9,422          | 27            | 1,865                        | 3,475         | 782           | 1,104          | 400           | 0           | 0                | 43,256  |
| 1996         | 4             | 0               | 1             | 1,983         | 10,031           | 4,976          | 0             | 391                          | 432           | 1,015         | 3,404          | 1,160         | 0           | 0                | 23,397  |
| 1997         | 0             | 1,780           | 2,152         | 3,107         | 337,357          | 165,774        | 1,753         | 34,604                       | 12,296        | 15,910        | 21,028         | 0             | 0           | 0                | 595,761 |
| 1998         | 0             | 0               | 0             | 20,966        | 235,693          | 106,251        | 2,354         | 697                          | 848           | 1,836         | 6,426          | 0             | 0           | 0                | 375,071 |
| 1999         | 0             | 0               | 0             | 0             | 63,196           | 26,235         | 0             | 3,394                        | 4,136         | 8,959         | 31,350         | 7,740         | 0           | 0                | 145,010 |
| 2000–2013    | 0             | 0               | 0             | 0             | 0                | 0              | 0             | 0                            | 0             | 0             | 0              | 0             | 0           | 0                | 0       |
| <b>Total</b> | <b>4,290</b>  | <b>3,549</b>    | <b>5,707</b>  | <b>38,457</b> | <b>1,041,323</b> | <b>637,838</b> | <b>70,909</b> | <b>78,719</b>                | <b>43,445</b> | <b>67,625</b> | <b>172,056</b> | <b>20,480</b> | <b>132</b>  | <b>2,118,530</b> |         |

**Table 9 Extra Peaking Charges for Additional Power, by Contractor (in dollars)**

| Year         | Napa         | Solano       | Alameda-Zone 7 | Alameda-County | Santa Clara  | Dudley Ridge  | Empire       | Kern             | Kings        | Oak Flat     | Tulare         | AVEK           | Castaic Lake | Coachella     | Desert        | Littlerock   | Palmdale      | San Gabriel   | Total           |
|--------------|--------------|--------------|----------------|----------------|--------------|---------------|--------------|------------------|--------------|--------------|----------------|----------------|--------------|---------------|---------------|--------------|---------------|---------------|-----------------|
| 1972         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 35,269           | 0            | 0            | 10             | 0              | 0            | 0             | 0             | 0            | 0             | 35,27         |                 |
| 1973         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 6,016            | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 6,01          |                 |
| 1974         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 7,140            | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 7,14          |                 |
| 1975         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 6,891            | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 6,89          |                 |
| 1976         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 1,981            | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 1,98          |                 |
| 1977         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 0             |                 |
| 1978         | 0            | 0            | 0              | 0              | 0            | 0             | 2,035        | 0                | 44,484       | 42           | 0              | 0              | 2,264        | 0             | 0             | 0            | 0             | 0             |                 |
| 1979         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 2,821        | 0            | 0              | 0              | 485          | 0             | 0             | 0            | 0             | 3,30          |                 |
| 1980         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 0             |                 |
| 1981         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 11,951       | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 12,12         |                 |
| 1982         | 0            | 0            | 0              | 0              | 0            | 0             | 2,173        | 0                | 80,945       | 0            | 0              | 0              | 4,671        | 1,128         | 0             | 0            | 0             | 422           |                 |
| 1983         | 0            | 0            | 0              | 0              | 0            | 48            | 9,511        | 0                | 0            | 1,365        | 0              | 0              | 391          | 0             | 0             | 0            | 0             | 11,31         |                 |
| 1984         | 0            | 0            | 0              | 0              | 0            | 2,874         | 0            | 0                | 144,021      | 281          | 809            | 0              | 2,906        | 0             | 0             | 0            | 0             | 150,89        |                 |
| 1985         | 0            | 0            | 0              | 0              | 0            | 2,029         | 0            | 0                | 64           | 25,664       | 0              | 98             | 0            | 48,767        | 256           | 0            | 0             | 0             |                 |
| 1986         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 0            | 0            | 13             | 2,194          | 4,614        | 0             | 0             | 0            | 0             | 6,82          |                 |
| 1987         | 0            | 0            | 229            | 0              | 599          | 313           | 84           | 24,141           | 0            | 95           | 0              | 18,207         | 545          | 0             | 0             | 812          | 0             | 45,02         |                 |
| 1988         | 892          | 73           | 665            | 561            | 0            | 1,853         | 1,404        | 58,905           | 0            | 72           | 2,368          | 44,526         | 627          | 0             | 0             | 0            | 0             | 111,94        |                 |
| 1989         | 3,478        | 1,062        | 96             | 0              | 0            | 13            | 403          | 55,085           | 0            | 239          | 8,278          | 0              | 1,043        | 0             | 0             | 1,035        | 5,489         | 0             |                 |
| 1990         | 63           | 0            | 470            | 0              | 0            | 0             | 0            | 28,587           | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 30,22         |                 |
| 1991         | 1,184        | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 1,46          |                 |
| 1992         | 271          | 257          | 0              | 0              | 0            | 0             | 0            | 49               | 10,109       | 221          | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 10,90         |                 |
| 1993         | 0            | 1,570        | 6,122          | 0              | 0            | 0             | 3,757        | 97,812           | 504          | 0            | 74,577         | 0              | 0            | 24,983        | 41,156        | 0            | 4,856         | 0             |                 |
| 1994         | 0            | 739          | 896            | 0              | 0            | 0             | 7            | 9,933            | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 56           | 0             | 14,10         |                 |
| 1995         | 0            | 0            | 2,353          | 0              | 0            | 10,197        | 0            | 28,085           | 310          | 0            | 0              | 0              | 27           | 0             | 0             | 0            | 2,284         | 0             |                 |
| 1996         | 5            | 0            | 81             | 2,612          | 0            | 334           | 205          | 4,552            | 969          | 0            | 7,809          | 0              | 0            | 0             | 0             | 0            | 3,598         | 3,232         |                 |
| 1997         | 0            | 3,932        | 3,999          | 0              | 0            | 6,190         | 0            | 546,733          | 0            | 40           | 0              | 0              | 0            | 0             | 0             | 34,867       | 0             | 595,76        |                 |
| 1998         | 0            | 0            | 19,666         | 8,442          | 0            | 22,631        | 1            | 312,626          | 0            | 651          | 0              | 0              | 0            | 0             | 0             | 0            | 11,054        | 0             |                 |
| 1999         | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 76,425           | 0            | 0            | 6,922          | 0              | 0            | 0             | 0             | 0            | 11,576        | 50,087        |                 |
| 2000-2013    | 0            | 0            | 0              | 0              | 0            | 0             | 0            | 0                | 0            | 0            | 0              | 0              | 0            | 0             | 0             | 0            | 0             | 0             |                 |
| <b>Total</b> | <b>5,893</b> | <b>7,653</b> | <b>34,577</b>  | <b>13,644</b>  | <b>3,521</b> | <b>55,250</b> | <b>5,974</b> | <b>1,620,176</b> | <b>3,692</b> | <b>2,017</b> | <b>102,158</b> | <b>123,049</b> | <b>9,858</b> | <b>24,983</b> | <b>41,156</b> | <b>2,439</b> | <b>74,749</b> | <b>53,741</b> | <b>2,184,53</b> |

as delivery of allocations down-aqueduct from a contractor's turnout) and for wheeling service to entities other than the SWP contractors.

The cumulative unit conveyance costs indicated for reaches in Table B-25 do not necessarily equal the equivalent unit Transportation Charges to contractors served from such reaches. The unit charges in Table B-24 account for the rate of water demand buildup and cost allocation factors of the individual contractors; however, the unit costs included in Table B-25 reflect the effect of melding the respective buildups and allocation criteria of all contractors whose allocations are conveyed through a given reach. Table B-25 also includes surplus water delivered prior to May 1, 1973, and Article 21 water deliveries in 1994 and thereafter.

## East Branch Enlargement Charges

*Table B-26* reflects DWR's projection of annual capital costs of the East Branch Enlargement for each aqueduct reach. These projections will be redetermined in future bulletins to include the following:

- a reallocation of costs of constructing the present East Branch facilities between Alamo Powerplant and Silverwood Lake;
- a reallocation of costs of Silverwood Lake to reflect additional use as a result of East Branch Enlargement operation;
- a reallocation of costs of San Bernardino Tunnel to reflect redistribution of flow capacities necessary for the East Branch Enlargement facilities; and
- actual enlargement construction costs.

These costs will be recovered with interest from the seven Southern California SWP contractors participating in the enlargement, in accordance with their amended water supply contracts (see *Table 10*).

*Table B-27* lists the projected minimum OMP&R costs for each reach of the

enlargement to be repaid by the seven East Branch Enlargement participating contractors. Currently, this table includes only minimum OMP&R costs attributable to the East Branch Enlargement. In accordance with Article 49(e)(1), the contractors participating in the East Branch Enlargement will also share in the remaining minimum OMP&R costs of the affected reaches, in accordance with a formula developed by DWR in consultation with the affected contractors.

*Table B-28* shows each participating contractor's share of the estimated capital costs of the East Branch Enlargement shown in Table B-26.

*Table B-29* shows the amounts of the annual capital cost components of the East Branch Enlargement Transportation Charge for each participating contractor. This component consists of each contractor's allocated share of debt service on bonds sold to finance the enlargement.

*Table B-30* shows the minimum OMP&R components of the East Branch Enlargement Transportation Charge for each participating contractor for each year of the project repayment period. The amounts shown in *Table B-30* will recover the minimum OMP&R costs shown in *Table B-27*.

*Table B-31* shows the annual East Branch Enlargement Transportation charges for each participating contractor (the sum of the corresponding amounts included in Tables B-29 and B-30).

## East Branch Extension Phase I Charges

The East Branch Extension Phase I charges recover associated costs for East Branch Extension facilities beginning at Devil Canyon Powerplant Afterbay and extending to the terminus at Noble Creek in the vicinity of Beaumont, Riverside County. These costs

**Table 10 Determination of Factors for Distributing Capital and Minimum OMP&R Costs of East Branch Enlargement Facilities among Participating Contractors**

| Reach Number | Description  |
|--------------|--|
| 18A          | Junction, West Branch, California Aqueduct, through Alamo Powerplant           |
| 19           | Alamo Powerplant to Fairmont   |
| 20A          | Fairmont through 70th Street West  |
| 20B          | 70th Street West to Palmdale   |
| 21           | Palmdale to Littlerock Creek   |
| 22A          | Littlerock Creek to Pearblossom Pumping Plant                                  |
| 22B          | Pearblossom Pumping Plant to West Fork Mojave River                            |
| 23B          | West Fork Mojave River to Silverwood Lake (excluding Mojave Siphon Powerplant) |
| 23C          | Mojave Siphon Powerplant   |
| 24           | Cedar Springs Dam and Silverwood Lake  |
| 25           | Silverwood Lake to South Portal, San Bernardino Tunnel                         |
| 26A          | South Portal, San Bernardino Tunnel through Devil Canyon Powerplant            |
| 26B          | Devil Canyon Powerplant Bypass   |

Share of Enlargement Capacity (cubic feet per second)

| Reach Number | AVEK | Coachella | Desert | Mojave | Palmdale | San Bernardino | Metropolitan | Total |
|--------------|------|-----------|--------|--------|----------|----------------|--------------|-------|
| 18A          |      | 151       | 13     | 136    | 6        |                | 1,200        | 1,506 |
| 19           |      | 151       | 13     | 136    | 6        |                | 1,200        | 1,506 |
| 20A          | 35   | 151       | 13     | 136    | 6        |                | 1,200        | 1,541 |
| 20B          | 35   | 151       | 13     | 136    | 6        |                | 1,200        | 1,541 |
| 21           | 35   | 151       | 13     | 136    |          |                | 1,200        | 1,535 |
| 22A          | 35   | 151       | 13     | 136    |          |                | 1,200        | 1,535 |
| 22B          |      | 151       | 13     | 136    |          |                | 1,200        | 1,500 |
| 23B          |      | 184       | 67     | 212    |          |                | 1,200        | 1,663 |
| 23C          |      | 184       | 67     |        |          |                | 1,200        | 1,451 |
| 24           |      | 190       | 78     |        |          |                | 1,200        | 1,468 |
| 25           |      | 193       | 83     |        |          | 63             | 1,200        | 1,539 |
| 26A          |      | 193       | 83     |        |          | 63             | 1,200        | 1,539 |
| 26B          |      |           |        |        |          |                | 300          | 300   |

Factors for Distributing Capital and Minimum OMP&R Costs of East Branch Enlargement Facilities (flow ratios)

| Reach Number | AVEK       | Coachella  | Desert     | Mojave     | Palmdale   | San Bernardino | Metropolitan | Total      |
|--------------|------------|------------|------------|------------|------------|----------------|--------------|------------|
| 18A          | 0.00000000 | 0.10026560 | 0.00863214 | 0.09030544 | 0.00398406 | 0.00000000     | 0.79681276   | 1.00000000 |
| 19           | 0.00000000 | 0.10026560 | 0.00863214 | 0.09030544 | 0.00398406 | 0.00000000     | 0.79681276   | 1.00000000 |
| 20A          | 0.02271252 | 0.09798832 | 0.00843608 | 0.08825438 | 0.00389358 | 0.00000000     | 0.77871512   | 1.00000000 |
| 20B          | 0.02271252 | 0.09798832 | 0.00843608 | 0.08825438 | 0.00389358 | 0.00000000     | 0.77871512   | 1.00000000 |
| 21           | 0.02280130 | 0.09837134 | 0.00846906 | 0.08859935 | 0.00000000 | 0.00000000     | 0.78175895   | 1.00000000 |
| 22A          | 0.02280130 | 0.09837134 | 0.00846906 | 0.08859935 | 0.00000000 | 0.00000000     | 0.78175895   | 1.00000000 |
| 22B          | 0.00000000 | 0.10066667 | 0.00866667 | 0.09066667 | 0.00000000 | 0.00000000     | 0.79999999   | 1.00000000 |
| 23B          | 0.00000000 | 0.11064342 | 0.04028863 | 0.12748046 | 0.00000000 | 0.00000000     | 0.72158749   | 1.00000000 |
| 23C          | 0.00000000 | 0.12680910 | 0.04617505 | 0.00000000 | 0.00000000 | 0.00000000     | 0.82701585   | 1.00000000 |
| 24           | 0.00000000 | 0.12942779 | 0.05313351 | 0.00000000 | 0.00000000 | 0.00000000     | 0.81743870   | 1.00000000 |
| 25           | 0.00000000 | 0.12540611 | 0.05393112 | 0.00000000 | 0.00000000 | 0.04093567     | 0.77972710   | 1.00000000 |
| 26A          | 0.00000000 | 0.12540611 | 0.05393112 | 0.00000000 | 0.00000000 | 0.04093567     | 0.77972710   | 1.00000000 |
| 26B          | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000     | 1.00000000   | 1.00000000 |

will be recovered from two contractors—San Bernardino and San Gorgonio—in accordance with their amended water supply contracts. The factors for distributing costs are shown in *Table 11*. *Table 12* shows the debt service for 2015.

## Short-Term Agreements

DWR and the water supply contractors execute short-term agreements that affect the contractors' charges.

### Municipal Water Quality Investigations

DWR executed a 5-year agreement in 1997 with 16 municipal and industrial

contractors, who agreed to pay for allocated shares of DWR's Municipal Water Quality Investigations costs. Additional amendments were executed in 2002, 2006, 2008, 2010, and 2014 to extend the program. The Municipal Water Quality Investigations charges under this agreement are included in the transportation minimum OMP&R components shown in Table B-16A.

### Feasibility Study

Nine contractors executed a short-term agreement (1997 and 1998) to participate in the feasibility study for the American Basin conjunctive-use program. Feasibility study costs are included in Table B-16A.

**Table 11 Factors for Distributing Capital and Minimum OMP&R Costs of the East Branch Extension Facilities**

| Reach Number   | Reach Description  | San Bernardino | San Gorgonio | Total    |
|----------------|--|----------------|--------------|----------|
| <b>Capital</b> |  |                |              |          |
| all            | Average of the contractors' participation of EBX facilities                        | 0.458417       | 0.541583     | 1.000000 |
| <b>Minimum</b> |  |                |              |          |
| 1              | Devil Canyon Powerplant to Junction, Foothill Pipeline near Cone Camp Road         | 0.557330       | 0.442670     | 1.000000 |
| 2A             | Junction Foothill Pipeline near Cone Camp Road to Greenspot Pump Station           | 0.557330       | 0.442670     | 1.000000 |
| 2B             | Greenspot Pump Station to Morton Canyon Valve Vault                                | 0.777778       | 0.222222     | 1.000000 |
| 2C             | Morton Canyon Valve Vault to Crafton Hills Pump Station                            | 0.777778       | 0.222222     | 1.000000 |
| 3A             | Crafton Hills Pump Station to Carter Street Valve Vault                            | 0.557330       | 0.442670     | 1.000000 |
| 3B             | Carter Street Valve Vault to Garden Air Creek, South of San Bernardino County Line | 0.557330       | 0.442670     | 1.000000 |
| 4A             | Garden Air Creek to Cherry Valley Pump Station                                     |                | 1.000000     | 1.000000 |
| 4B             | Cherry Valley Pump Station to Terminus at Noble Creek                              |                | 1.000000     | 1.000000 |

**Table 12 East Branch Extension Facilities Debt Service for 2015**

| Contractor     | Share of Participation (percent) | Total Debt Service Charge (in dollars) |
|----------------|----------------------------------|--|
| San Bernardino | 45.84170                         | <b>14,160,508</b>                      |
| San Gorgonio   | 54.15830                         | <b>16,729,507</b>                      |
| <b>Total</b>   | 100.00000                        | <b>30,890,015</b>                      |

## Delta Programs

Contractors have agreed to participate in several Delta improvement programs that started in 2007 and that will possibly extend into the future.

The first agreement pertains to the Bay Delta Conservation Plan (BDCP) agreed to in the Memorandum of Agreement (MOA) for Supplemental Funding for Certain Ecosystem Actions and Support for Implementation of Near-Term Water Supply, Water Quality, Ecosystem, and Levee Actions. The BDCP comprises two elements: fishery costs and consultation costs. These costs were added to the contractors' transportation minimum component for bill years 2007 through 2012.

The second agreement pertains to the non-BDCP costs of the MOA, comprising the Delta Vision and pelagic organism decline research costs. These costs were added to the contractors' conservation minimum component for bill years 2007 and 2008.

The third set of agreements pertains to the Delta Habitat Conservation and Conveyance Program (DHCCP). The agreements are between DWR and 20 participating SWP contractors to provide 50 percent of the funding for the preliminary planning phase of an improved Delta water conveyance facility. (The remaining 50 percent is provided by the Bureau of Reclamation.) This program will assess potential habitat restoration and water conveyance options in the Delta. For bill years 2008 through 2011, nearly \$70 million in charges associated with the DHCCP were billed directly to the 20 participating SWP contractors as a separate line item in the Statements of Charges, and are not reflected in the tables in this appendix.

A fourth set of agreements pertains to both DHCCP and BDCP. For bill years 2012 and 2013, an Agreement for Supplemental Funding for the Costs of Environmental

Analysis, Planning and Design of Delta Conservation Measures, Including Delta Conveyance Options, was executed in 2012 between DWR and 16 participating SWP contractors to provide 50 percent of the project funding. In 2012, \$22 million was billed and in 2013, \$28 million was billed directly to the 16 participating contractors as a separate line item in the Statements of Charges.

During 2013, SWP water supply contractors agreed to participate in the 2013 San Joaquin River Flow Augmentation Program. The costs of the \$4 million program were recovered in the 2014 Statements of Charges.

**TABLE B-1 Factors for Distributing Reach Capital Costs among Contractors<sup>a</sup>**

Sheet 1 of 2

| Reach No.                  | Reach Description  | NORTH BAY AREA     |                  | SOUTH BAY AREA                |                               |                                   | Total      |
|----------------------------|--|--------------------|------------------|-------------------------------|-------------------------------|-----------------------------------|------------|
|                            |  | Napa County FC&WCD | Solano County WA | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District |            |
| <b>NORTH BAY AQUEDUCT</b>  |  |                    |                  |                               |                               |                                   |            |
| 1                          | Barker Slough thru Fairfield/Vacaville Turnout               | 0.29667896         | 0.70332104       |                               |                               |                                   | 1.00000000 |
| 2                          | Fairfield/Vacaville Turnout to Cordelia Forebay              | 0.38414552         | 0.61585448       |                               |                               |                                   | 1.00000000 |
| 3A                         | Cordelia Forebay thru Benicia and Vallejo Turnouts           |                    | 1.00000000       |                               |                               |                                   | 1.00000000 |
| 3B                         | Cordelia Forebay thru Napa Turnout Reservoir                 | 1.00000000         |                  |                               |                               |                                   | 1.00000000 |
| <b>SOUTH BAY AQUEDUCT</b>  |  |                    |                  |                               |                               |                                   |            |
| 1                          | Bethany Reservoir thru Altamont Turnout                      |                    | 0.22599612       | 0.20663021                    | 0.49237700                    | 0.07499667                        | 1.00000000 |
| 2                          | Altamont Turnout thru Patterson Reservoir                    |                    | 0.22599658       | 0.20663059                    | 0.49237783                    | 0.07499500                        | 1.00000000 |
| 4                          | Patterson Reservoir to Del Valle Junction                    |                    | 0.19504795       | 0.21450017                    | 0.51113249                    | 0.07931939                        | 1.00000000 |
| 5                          | Del Valle Junction thru Lake Del Valle                       |                    | 0.14436367       | 0.12972254                    | 0.33715573                    | 0.38875806                        | 1.00000000 |
| 6                          | Del Valle Junction thru South Livermore Turnout              |                    | 0.14599918       | 0.21144710                    | 0.50574745                    | 0.13680627                        | 1.00000000 |
| 7                          | South Livermore Turnout thru Vallejos Turnout                |                    |                  | 0.25176680                    | 0.60218448                    | 0.14604872                        | 1.00000000 |
| 8                          | Vallejos Turnout thru Alameda-Bayside Turnout                |                    |                  | 0.27934645                    | 0.72065355                    |                                   | 1.00000000 |
| 9                          | Alameda-Bayside Turnout thru Santa Clara Terminal Facilities |                    |                  |                               | 1.00000000                    |                                   | 1.00000000 |
| <b>CALIFORNIA AQUEDUCT</b> |  |                    |                  |                               |                               |                                   |            |
| 1                          | Delta thru Bethany Reservoir                                 |                    | 0.00954737       | 0.00872917                    | 0.02080118                    | 0.00342507                        | N/A        |

| Reach No.                  | Reach Description  | CENTRAL COASTAL AREA          |                             | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       | Desert Water Agency |
|----------------------------|--|-------------------------------|-----------------------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|
|                            |  | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency |                     |
| <b>CALIFORNIA AQUEDUCT</b> |  |                               |                             |  |                           |                                 |                                       |                     |
| 1                          | Delta thru Bethany Reservoir                               | 0.00533010                    | 0.00983337                  | 0.02939084                             | 0.01285827                | 0.00528315                      | 0.00133612                            | 0.00871300          |
| 2A                         | Bethany Reservoir to Orestimba Creek                       | 0.00557213                    | 0.01027988                  | 0.03072531                             | 0.01343201                | 0.00552068                      | 0.00139620                            | 0.00910474          |
| 2B                         | Orestimba Creek to O'Neill Forebay                         | 0.00557824                    | 0.01029119                  | 0.03075915                             | 0.01345351                | 0.00552831                      | 0.00139814                            | 0.00911733          |
| 3                          | O'Neill Forebay to Dos Amigos Pumping Plant                | 0.00557719                    | 0.01028923                  | 0.03075332                             | 0.01345294                | 0.00552772                      | 0.00139798                            | 0.00911637          |
| 4                          | Dos Amigos Pumping Plant to Panoche Creek                  | 0.00557607                    | 0.01028717                  | 0.03074719                             | 0.01345233                | 0.00552710                      | 0.00139784                            | 0.00911536          |
| 5                          | Panoche Creek to Five Points                               | 0.00557467                    | 0.01028462                  | 0.03073954                             | 0.01345157                | 0.00552633                      | 0.00139763                            | 0.00911409          |
| 6                          | Five Points to Arroyo Pasajero                             | 0.00557257                    | 0.01028074                  | 0.03072799                             | 0.01345042                | 0.00552517                      | 0.00139733                            | 0.00911216          |
| 7                          | Arroyo Pasajero to Kettleman City                          | 0.00557189                    | 0.01027949                  | 0.03072428                             | 0.01345006                | 0.00552480                      | 0.00139723                            | 0.00911154          |
| 8C                         | Kettleman City thru Milham Avenue                          | 0.00557103                    | 0.01027792                  | 0.03071961                             | 0.01344960                | 0.00552432                      | 0.00139712                            | 0.00911076          |
| 8D                         | Milham Avenue thru Avenal Gap                              | 0.00568611                    | 0.01049020                  | 0.03135418                             | 0.01373353                | 0.00563986                      | 0.00142632                            | 0.00930130          |
| 9                          | Avenal Gap thru Twisselman Road                            |                               |                             | 0.03426625                             | 0.01356094                | 0.00616886                      | 0.00156011                            | 0.01017373          |
| 10A                        | Twisselman Road thru Lost Hills                            |                               |                             | 0.03481391                             | 0.01377767                | 0.00626946                      | 0.00158556                            | 0.01033963          |
| 11B                        | Lost Hills to 7th Standard Road                            |                               |                             | 0.03835043                             | 0.01517717                | 0.00691699                      | 0.00174933                            | 0.01140749          |
| 12D                        | 7th Standard Road thru Elk Hill Road                       |                               |                             | 0.04031661                             | 0.01595523                | 0.00727790                      | 0.00184059                            | 0.01200265          |
| 12E                        | Elk Hill Road thru Tupman Road                             |                               |                             | 0.04037074                             | 0.01597665                | 0.00728878                      | 0.00184332                            | 0.01202059          |
| 13B                        | Tupman Road to Buena Vista Pumping Plant                   |                               |                             | 0.04379882                             | 0.01733322                | 0.00791595                      | 0.00200194                            | 0.01305492          |
| 14A                        | Buena Vista Pumping Plant thru Santiago Creek              |                               |                             | 0.04599268                             | 0.01820137                | 0.00831952                      | 0.00210399                            | 0.01372049          |
| 14B                        | Santiago Creek thru Old River Road                         |                               |                             | 0.04682530                             | 0.01853084                | 0.00847388                      | 0.00214303                            | 0.01397505          |
| 14C                        | Old River Road to Wheeler Ridge Pumping Plant              |                               |                             | 0.04825217                             | 0.01909545                | 0.00873768                      | 0.00220973                            | 0.01441013          |
| 15A                        | Wheeler Ridge Pumping Plant to Chrisman Pumping Plant      |                               |                             | 0.04905609                             | 0.01941356                | 0.00888679                      | 0.00224744                            | 0.01465600          |
| 16A                        | Chrisman Pumping Plant to Edmonston Pumping Plant          |                               |                             | 0.05089794                             | 0.02014241                | 0.00922722                      | 0.00233351                            | 0.01521742          |
| 17E                        | Edmonston Pumping Plant to Porter Tunnel                   |                               |                             | 0.05329388                             | 0.02109050                | 0.00967107                      | 0.00244575                            | 0.01594937          |
| 17F                        | Porter Tunnel to Junction, West Branch, Calif. Aqueduct    |                               |                             | 0.05340725                             | 0.02113537                | 0.00969176                      | 0.00245098                            | 0.01598349          |
| 18A                        | Junction, West Branch, Calif. Aqueduct thru Alamo Pwp.     |                               |                             | 0.13238112                             | 0.02399391                | 0.00606795                      | 0.03957043                            |                     |
| 19                         | Alamo Powerplant to Fairmont                               |                               |                             | 0.13237766                             | 0.02399451                | 0.00606811                      | 0.03957141                            |                     |
| 19C                        | Buttes Junction thru Buttes Reservoir                      | 1.00000000                    |                             |  |                           |                                 |                                       |                     |
| 20A                        | Fairmont thru 70th Street West                             | 0.06847931                    |                             | 0.02576425                             | 0.00651573                | 0.04249001                      |                                       |                     |
| 20B                        | 70th Street West to Palmdale                               | 0.02276024                    |                             | 0.02702917                             | 0.00683555                | 0.04457607                      |                                       |                     |
| 21                         | Palmdale to Littlerock Creek                               | 0.02318952                    |                             | 0.02754716                             | 0.00696651                | 0.04543034                      |                                       |                     |
| 22A                        | Littlerock Creek to Pearblossom Pumping Plant              | 0.01181870                    |                             | 0.02794143                             | 0.00706621                | 0.04608043                      |                                       |                     |
| 22B                        | Pearblossom Pumping Plant to West Fork Mojave River        |                               |                             | 0.02827552                             | 0.00715074                | 0.04663153                      |                                       |                     |
| 23                         | West Fork Mojave River to Silverwood Lake                  |                               |                             | 0.03024449                             | 0.00818122                | 0.00535117                      |                                       |                     |
| 24                         | Cedar Springs Dam and Silverwood Lake                      |                               |                             | 0.01024605                             | 0.01251569                | 0.01690478                      |                                       |                     |
| 25                         | Silverwood Lake to South Portal San Bernardino Tunnel      |                               |                             |  |                           |                                 |                                       |                     |
| 26A                        | South Portal, San Bernardino Tunnel thru Devil Canyon Pwp. |                               |                             |  |                           |                                 |                                       |                     |
| 28G                        | Devil Canyon Powerplant to Barton Road                     |                               |                             |  |                           |                                 |                                       |                     |
| 28H                        | Barton Road to Lake Perris                                 |                               |                             |  |                           |                                 |                                       |                     |
| 28J                        | Perris Dam and Lake Perris                                 |                               |                             |  |                           |                                 |                                       |                     |
| 29A                        | Junction, West Branch, Calif. Aqueduct thru Oso P. P.      |                               |                             | 0.03544337                             |                           |                                 |                                       |                     |
| 29F                        | Oso Pumping Plant thru Quail Embankment                    |                               |                             | 0.03544339                             |                           |                                 |                                       |                     |
| 29G                        | Quail Embankment thru Warne Powerplant                     |                               |                             | 0.03544339                             |                           |                                 |                                       |                     |
| 29H                        | Pyramid Dam and Lake                                       |                               |                             | 0.02817144                             |                           |                                 |                                       |                     |
| 29J                        | Pyramid Lake thru Castaic Powerplant                       |                               |                             | 0.03544338                             |                           |                                 |                                       |                     |
| 30                         | Castaic Dam and Lake                                       |                               |                             | 0.02927284                             |                           |                                 |                                       |                     |
| 31A                        | Avenal Gap to Devil's Den Pumping Plant                    | 0.10560301                    | 0.19482503                  |  | 0.07364766                |                                 |                                       |                     |
| 33A                        | Devil's Den Pumping Plant through Tank 1                   | 0.10101221                    | 0.89898779                  |  |                           |                                 |                                       |                     |
| 33B                        | Tank 1 through Chorro Valley Turnout                       | 0.09912818                    | 0.90087182                  |  |                           |                                 |                                       |                     |
| 34                         | Chorro Valley Turnout through Lopez Turnout                | 0.05479573                    | 0.94520427                  |  |                           |                                 |                                       |                     |
| 35                         | Lopez Turnout through Guadalupe Turnout                    | 1.00000000                    |                             |  |                           |                                 |                                       |                     |

(a) Proportionate Use Factors do not reflect permanent water transfers as a result of the Monterey Amendment and after.

**TABLE B-1 Factors for Distributing Reach Capital Costs among Contractors<sup>a</sup>**

Sheet 2 of 2

| Reach No.                  | SAN JOAQUIN VALLEY AREA     |                                      |                                      |                          |              |                 |                         |  |
|----------------------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------|-----------------|-------------------------|--|
|                            | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency |              | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District |
|                            |                             |                                      |                                      | Municipal and Industrial | Agricultural |                 |                         |  |
| <b>CALIFORNIA AQUEDUCT</b> |                             |                                      |                                      |                          |              |                 |                         |  |
| 1                          | 0.01707770                  | 0.00088678                           | 0.00254693                           | 0.02741768               | 0.30629913   | 0.00090695      | 0.00167121              | 0.03504975                               |
| 2A                         | 0.01781031                  | 0.00092482                           | 0.00266258                           | 0.02864263               | 0.31945188   | 0.00094747      | 0.00174288              | 0.03655331                               |
| 2B                         | 0.01785838                  | 0.00092731                           | 0.00266550                           | 0.02868743               | 0.32030556   | 0.00094896      |                         | 0.03665201                               |
| 3                          | 0.01786337                  | 0.00092757                           | 0.00266499                           | 0.02868589               | 0.32039254   | 0.00094892      |                         | 0.03666225                               |
| 4                          | 0.01786863                  | 0.00092785                           | 0.00266446                           | 0.02868428               | 0.32048398   | 0.00094886      |                         | 0.03667303                               |
| 5                          | 0.01787517                  | 0.00092819                           | 0.00266380                           | 0.02868227               | 0.32059816   | 0.00094879      |                         | 0.03668649                               |
| 6                          | 0.01788508                  | 0.00092870                           | 0.00266279                           | 0.02867923               | 0.32077093   | 0.00094868      |                         | 0.03670685                               |
| 7                          | 0.01788826                  | 0.00092887                           | 0.00266246                           | 0.02867825               | 0.32082633   | 0.00094864      |                         | 0.03671338                               |
| 8C                         | 0.01789228                  | 0.00092909                           | 0.00266205                           | 0.02867702               | 0.32089625   | 0.00094859      |                         | 0.03672162                               |
| 8D                         | 0.01828779                  |                                      | 0.00271703                           | 0.02928147               | 0.32798200   |                 |                         | 0.01820857                               |
| 9                          |                             |                                      |                                      | 0.03204523               | 0.32739538   |                 |                         |  |
| 10A                        |                             |                                      |                                      | 0.03257442               | 0.31658608   |                 |                         |  |
| 11B                        |                             |                                      |                                      | 0.03597398               | 0.24684668   |                 |                         |  |
| 12D                        |                             |                                      |                                      | 0.03787171               | 0.20804762   |                 |                         |  |
| 12E                        |                             |                                      |                                      | 0.03793198               | 0.20695175   |                 |                         |  |
| 13B                        |                             |                                      |                                      | 0.01458796               | 0.16600071   |                 |                         |  |
| 14A                        |                             |                                      |                                      | 0.00620338               | 0.13319181   |                 |                         |  |
| 14B                        |                             |                                      |                                      | 0.00632023               | 0.11741558   |                 |                         |  |
| 14C                        |                             |                                      |                                      | 0.00651962               | 0.09039633   |                 |                         |  |
| 15A                        |                             |                                      |                                      | 0.00663252               | 0.07516317   |                 |                         |  |
| 16A                        |                             |                                      |                                      | 0.00688973               | 0.04028829   |                 |                         |  |
| 17E                        |                             |                                      |                                      | 0.00212516               |              |                 |                         |  |
| 31A                        |                             |                                      |                                      | 0.05046240               | 0.57546190   |                 |                         |  |

| SOUTHERN CALIFORNIA AREA (continued) |                                      |                     |                         |   |   |                                |  |  |
|--------------------------------------|--------------------------------------|---------------------|-------------------------|---|---|--------------------------------|--|--|
| Reach No.                            | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Municipal Water District | San Gabriel Valley Municipal Water District | San Gorgonio Pass Water Agency | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District |
| <b>CALIFORNIA AQUEDUCT</b>           |                                      |                     |                         |   |   |                                |  |  |
| 1                                    | 0.00049180                           | 0.01101147          | 0.00369131              | 0.02362857                              | 0.00650354                                  | 0.00398392                     | 0.43929350   | 0.00429212                                   |
| 2A                                   | 0.00051413                           | 0.01151136          | 0.00385891              | 0.02469101                              | 0.00679699                                  | 0.00416304                     | 0.45921072   | 0.00448701                                   |
| 2B                                   | 0.00051469                           | 0.01152409          | 0.00386317              | 0.02472511                              | 0.00680570                                  | 0.00416880                     | 0.45973548   | 0.00449194                                   |
| 3                                    | 0.00051461                           | 0.01152193          | 0.00386244              | 0.02472246                              | 0.00680478                                  | 0.00416835                     | 0.45965407   | 0.00449108                                   |
| 4                                    | 0.00051451                           | 0.01151965          | 0.00386167              | 0.02471968                              | 0.00680380                                  | 0.00416787                     | 0.45956848   | 0.00449019                                   |
| 5                                    | 0.00051440                           | 0.01151681          | 0.00386070              | 0.02471620                              | 0.00680259                                  | 0.00416730                     | 0.45946161   | 0.00448907                                   |
| 6                                    | 0.00051419                           | 0.01151251          | 0.00385926              | 0.02471095                              | 0.00680076                                  | 0.00416640                     | 0.45929991   | 0.00448738                                   |
| 7                                    | 0.00051413                           | 0.01151113          | 0.00385879              | 0.02470927                              | 0.00680016                                  | 0.00416612                     | 0.45924807   | 0.00448685                                   |
| 8C                                   | 0.00051405                           | 0.01150938          | 0.00385821              | 0.02470716                              | 0.00679941                                  | 0.00416576                     | 0.45918261   | 0.00448616                                   |
| 8D                                   | 0.00052466                           | 0.01174718          | 0.00393793              | 0.02522383                              | 0.00694100                                  | 0.00425288                     | 0.46868533   | 0.00457883                                   |
| 9                                    | 0.00057339                           | 0.01283841          | 0.00430367              | 0.02758959                              | 0.00758975                                  | 0.00465175                     | 0.51227887   | 0.00500407                                   |
| 10A                                  | 0.00058254                           | 0.01304366          | 0.00437246              | 0.02803943                              | 0.00771262                                  | 0.00472760                     | 0.52049091   | 0.00508405                                   |
| 11B                                  | 0.00064171                           | 0.01436906          | 0.00481665              | 0.03093503                              | 0.00850448                                  | 0.00521581                     | 0.57349473   | 0.00560046                                   |
| 12D                                  | 0.00067463                           | 0.01510596          | 0.00506361              | 0.03254889                              | 0.00894541                                  | 0.00548790                     | 0.60297374   | 0.00588755                                   |
| 12E                                  | 0.00067553                           | 0.01512626          | 0.00507040              | 0.03259749                              | 0.00895830                                  | 0.00549608                     | 0.60379667   | 0.00589546                                   |
| 13B                                  | 0.00073290                           | 0.01641098          | 0.00550099              | 0.03540212                              | 0.00972547                                  | 0.00596896                     | 0.65516902   | 0.00639604                                   |
| 14A                                  | 0.00076961                           | 0.01723225          | 0.00577656              | 0.03720681                              | 0.01021819                                  | 0.00627322                     | 0.68807273   | 0.00671639                                   |
| 14B                                  | 0.00078354                           | 0.01754538          | 0.00588113              | 0.03789703                              | 0.01040613                                  | 0.00638960                     | 0.70057530   | 0.00683798                                   |
| 14C                                  | 0.00080743                           | 0.01808019          | 0.00606036              | 0.03907670                              | 0.01072763                                  | 0.00658580                     | 0.72199174   | 0.00704634                                   |
| 15A                                  | 0.00082089                           | 0.01838154          | 0.00616135              | 0.03974336                              | 0.01090913                                  | 0.00670088                     | 0.73406357   | 0.00716371                                   |
| 16A                                  | 0.00085171                           | 0.01907194          | 0.00639271              | 0.04126559                              | 0.01132404                                  | 0.00695754                     | 0.76170731   | 0.00743264                                   |
| 17E                                  | 0.00089182                           | 0.01997003          | 0.00669365              | 0.04325018                              | 0.01186455                                  | 0.00729213                     | 0.79767940   | 0.00778251                                   |
| 17F                                  | 0.00089372                           | 0.02001251          | 0.00670788              | 0.04343270                              | 0.01188988                                  | 0.00730773                     | 0.79937767   | 0.00779906                                   |
| 18A                                  | 0.00221525                           | 0.04960424          | 0.01662680              | 0.10730448                              | 0.02944860                                  | 0.01809192                     | 0.57469530   | 1.00000000                                   |
| 19                                   | 0.00221522                           | 0.04960300          | 0.01662640              | 0.10730707                              | 0.02944876                                  | 0.01809230                     | 0.57469556   | 1.00000000                                   |
| 19C                                  |                                      |                     |                         |   |   |                                |  | 1.00000000                                   |
| 20A                                  | 0.00237800                           | 0.05324853          | 0.01784830              | 0.11522152                              | 0.03161798                                  | 0.01942666                     | 0.61700971   | 1.00000000                                   |
| 20B                                  | 0.00249470                           | 0.05586076          | 0.01872390              | 0.12087843                              | 0.03316986                                  | 0.02038045                     | 0.64729087   | 1.00000000                                   |
| 21                                   | 0.00254199                           | 0.05692053          |                         | 0.12319480                              | 0.03380324                                  | 0.02077093                     | 0.65963498   | 1.00000000                                   |
| 22A                                  |                                      | 0.05773082          |                         | 0.12495766                              | 0.03428605                                  | 0.02106816                     | 0.66905054   | 1.00000000                                   |
| 22B                                  |                                      | 0.05842136          |                         | 0.12645207                              | 0.03469614                                  | 0.02132008                     | 0.67705256   | 1.00000000                                   |
| 23                                   |                                      |                     |                         | 0.14467451                              | 0.03969010                                  | 0.02439237                     | 0.77446614   | 1.00000000                                   |
| 24                                   |                                      |                     |                         | 0.22243002                              | 0.04339444                                  | 0.02843498                     | 0.66607404   | 1.00000000                                   |
| 25                                   |                                      |                     |                         | 0.14947726                              | 0.03997502                                  | 0.02520426                     | 0.78534346   | 1.00000000                                   |
| 26A                                  |                                      |                     |                         | 0.14947726                              | 0.03997502                                  | 0.02520426                     | 0.78534346   | 1.00000000                                   |
| 28G                                  |                                      |                     |                         | 0.05126137                              |   |                                | 0.94873863   | 1.00000000                                   |
| 28H                                  |                                      |                     |                         |   |   |                                | 1.00000000   | 1.00000000                                   |
| 28J                                  |                                      |                     |                         |   |   |                                | 1.00000000   | 1.00000000                                   |
| 29A                                  |                                      |                     |                         |   |   |                                | 0.95147783   | 0.01307880                                   |
| 29F                                  |                                      |                     |                         |   |   |                                | 0.95147785   | 0.01307876                                   |
| 29G                                  |                                      |                     |                         |   |   |                                | 0.95147785   | 0.01307876                                   |
| 29H                                  |                                      |                     |                         |   |   |                                | 0.96278381   | 0.00904475                                   |
| 29J                                  |                                      |                     |                         |   |   |                                | 0.95147787   | 0.01307875                                   |
| 30                                   |                                      |                     |                         |   |   |                                | 0.96212388   | 0.00860328                                   |
| 31A                                  |                                      |                     |                         |   |   |                                |  | 1.00000000                                   |
| 33A                                  |                                      |                     |                         |   |   |                                |  | 1.00000000                                   |
| 34                                   |                                      |                     |                         |   |   |                                |  | 1.00000000                                   |
| 35                                   |                                      |                     |                         |   |   |                                |  | 1.00000000                                   |

(a) Proportionate Use Factors do not reflect permanent water transfers as a result of the Monterey Amendment and after.

**TABLE B-2 Factors for Distributing Reach Minimum OMP&R Costs Among Contractors<sup>a</sup>**

Sheet 1 of 2

| Reach No. | Reach Description  | NORTH BAY AREA                |                             | SOUTH BAY AREA                         |                               |                                   | Total                                 |                     |
|-----------|--|-------------------------------|-----------------------------|--|-------------------------------|-----------------------------------|---------------------------------------|---------------------|
|           |  | Napa County FC&WCD            | Solano County WA            | Alameda County FC&WCD, Zone 7          | Alameda County Water District | Santa Clara Valley Water District |                                       |                     |
| 1         | <b>NORTH BAY AQUEDUCT</b>                                    |                               |                             |  |                               |                                   |                                       |                     |
| 1         | Barker Slough thru Fairfield/Vacaville Turnout               | 0.29251728                    | 0.70748272                  |  |                               |                                   | 1.00000000                            |                     |
| 2         | Fairfield/Vacaville Turnout to Cordelia Forebay              | 0.42000793                    | 0.57999207                  |  |                               |                                   | 1.00000000                            |                     |
| 3A        | Cordelia Forebay thru Benicia and Vallejo Turnouts           |                               | 1.00000000                  |  |                               |                                   | 1.00000000                            |                     |
| 3B        | Cordelia Forebay thru Napa Turnout Reservoir                 |                               | 1.00000000                  |  |                               |                                   | 1.00000000                            |                     |
|           | <b>SOUTH BAY AQUEDUCT</b>                                    |                               |                             |  |                               |                                   |                                       |                     |
| 1         | Bethany Reservoir thru Altamont Turnout                      |                               | 0.33980110                  | 0.19515838                             | 0.46504052                    | 0.00000000                        | 1.00000000                            |                     |
| 2         | Altamont Turnout thru Patterson Reservoir                    |                               | 0.33978741                  | 0.19516252                             | 0.46505007                    | 0.00000000                        | 1.00000000                            |                     |
| 4         | Patterson Reservoir to Del Valle Junction                    |                               | 0.31610985                  | 0.20216089                             | 0.48172926                    | 0.00000000                        | 1.00000000                            |                     |
| 5         | Del Valle Junction thru Lake Del Valle                       |                               | 0.53312173                  | 0.12972254                             | 0.33715573                    | 0.00000000                        | 1.00000000                            |                     |
| 6         | Del Valle Junction thru South Livermore Turnout              |                               | 0.32478705                  | 0.19906896                             | 0.47614399                    | 0.00000000                        | 1.00000000                            |                     |
| 7         | South Livermore Turnout thru Valleccitos Turnout             |                               | 0.14604872                  | 0.25176680                             | 0.60218448                    | 0.00000000                        | 1.00000000                            |                     |
| 8         | Valleccitos Turnout thru Alameda-Bayside Turnout             |                               |                             | 0.27934645                             | 0.72065355                    |                                   | 1.00000000                            |                     |
| 9         | Alameda-Bayside Turnout thru Santa Clara Terminal Facilities |                               |                             |  | 1.00000000                    |                                   | 1.00000000                            |                     |
|           | <b>CALIFORNIA AQUEDUCT</b>                                   |                               |                             |  |                               |                                   |                                       |                     |
| 1         | Delta thru Bethany Reservoir                                 |                               |                             | 0.00870518                             | 0.02074403                    |                                   | N/A                                   |                     |
|           |  |                               |                             |  |                               |                                   |                                       |                     |
| Reach No. | Reach Description  | CENTRAL COASTAL AREA          |                             | SOUTHERN CALIFORNIA AREA               |                               |                                   |                                       |                     |
|           |  | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency     | Coachella Valley Water District   | Crestline-Lake Arrowhead Water Agency | Desert Water Agency |
|           | <b>CALIFORNIA AQUEDUCT</b>                                   |                               |                             |  |                               |                                   |                                       |                     |
| 1         | Delta thru Bethany Reservoir                                 | 0.00531721                    | 0.00980965                  | 0.03130358                             | 0.02543338                    | 0.03261213                        | 0.00133220                            | 0.01285646          |
| 2A        | Bethany Reservoir to Orestimba Creek                         | 0.00556969                    | 0.01027545                  | 0.03278434                             | 0.02659653                    | 0.03414259                        | 0.00139484                            | 0.01346045          |
| 2B        | Orestimba Creek to O'Neill Forebay                           | 0.00557578                    | 0.01028673                  | 0.03282389                             | 0.02665383                    | 0.03419149                        | 0.00139677                            | 0.01347932          |
| 3         | O'Neill Forebay to Dos Amigos Pumping Plant                  | 0.00557472                    | 0.01028476                  | 0.03281870                             | 0.02665705                    | 0.03418834                        | 0.00139663                            | 0.01347795          |
| 4         | Dos Amigos Pumping Plant to Panoche Creek                    | 0.00557360                    | 0.01028270                  | 0.03281323                             | 0.02666041                    | 0.03418504                        | 0.00139648                            | 0.01347652          |
| 5         | Panoche Creek to Five Points                                 | 0.00557222                    | 0.01028014                  | 0.03280640                             | 0.02666463                    | 0.03418091                        | 0.00139630                            | 0.01347474          |
| 6         | Five Points to Arroyo Pasajero                               | 0.00557012                    | 0.01027626                  | 0.03279609                             | 0.02667100                    | 0.03417466                        | 0.00139599                            | 0.01347205          |
| 7         | Arroyo Pasajero to Kettleman City                            | 0.00556944                    | 0.01027501                  | 0.03279278                             | 0.02667304                    | 0.03417265                        | 0.00139589                            | 0.01347118          |
| 8C        | Kettleman City thru Milham Avenue                            | 0.00551362                    | 0.01017203                  | 0.03245613                             | 0.02634257                    | 0.03380450                        | 0.00138102                            | 0.01332696          |
| 8D        | Milham Avenue thru Avenal Gap                                | 0.00562578                    | 0.01037893                  | 0.03311929                             | 0.02690184                    | 0.03450165                        | 0.00140943                            | 0.01360147          |
| 9         | Avenal Gap thru Twisselman Road                              |                               |                             | 0.03490917                             | 0.02761987                    | 0.03509927                        | 0.00151717                            | 0.01432230          |
| 10A       | Twisselman Road thru Lost Hills                              |                               |                             | 0.03544917                             | 0.02807208                    | 0.03564408                        | 0.00154110                            | 0.01454684          |
| 11B       | Lost Hills to 7th Standard Road                              |                               |                             | 0.03880671                             | 0.03085710                    | 0.03902944                        | 0.00168938                            | 0.01593968          |
| 12D       | 7th Standard Road thru Elk Hills Road                        |                               |                             | 0.04066779                             | 0.03241328                    | 0.04090687                        | 0.00177180                            | 0.01671325          |
| 12E       | Elk Hills Road thru Tupman Road                              |                               |                             | 0.04071899                             | 0.03246787                    | 0.04095940                        | 0.00177429                            | 0.01673594          |
| 13B       | Tupman Road to Buena Vista Pumping Plant                     |                               |                             | 0.04402054                             | 0.03519674                    | 0.04428760                        | 0.00191991                            | 0.01810442          |
| 14A       | Buena Vista Pumping Plant thru Santiago Creek                |                               |                             | 0.04611560                             | 0.03675967                    | 0.04640153                        | 0.00201279                            | 0.01897599          |
| 14B       | Santiago Creek thru Old River Road                           |                               |                             | 0.04676624                             | 0.03303687                    | 0.04706094                        | 0.00204236                            | 0.01925135          |
| 14C       | Old River Road to Wheeler Ridge Pumping Plant                |                               |                             | 0.04794869                             | 0.03181987                    | 0.04825630                        | 0.00209534                            | 0.01974685          |
| 15A       | Wheeler Ridge Pumping Plant to Chrisman Pumping Plant        |                               |                             | 0.04864100                             | 0.03227919                    | 0.04895597                        | 0.00212631                            | 0.02003668          |
| 16A       | Chrisman Pumping Plant to Edmonston Pumping Plant            |                               |                             | 0.05024161                             | 0.03334119                    | 0.05057226                        | 0.00219758                            | 0.02070455          |
| 17E       | Edmonston Pumping Plant to Porter Tunnel                     |                               |                             | 0.05223186                             | 0.03466168                    | 0.05258256                        | 0.00228636                            | 0.02153594          |
| 17F       | Porter Tunnel to Junction, West Branch, Calif. Aqueduct      |                               |                             | 0.05233552                             | 0.03473046                    | 0.05268698                        | 0.00229092                            | 0.02157880          |
| 18A       | Junction, West Branch, Calif. Aqueduct thru Alamo Pwp.       |                               |                             | 0.13774725                             |                               | 0.11306511                        | 0.00603056                            | 0.05137695          |
| 19        | Alamo Powerplant to Fairmont                                 |                               |                             | 0.13774370                             |                               | 0.11306344                        | 0.00603069                            | 0.05137766          |
| 19C       | Buttes Junction thru Buttes Reservoir                        |                               |                             | 1.00000000                             |                               |                                   |                                       |                     |
| 20A       | Fairmont thru 70th Street West                               |                               |                             | 0.06855702                             |                               | 0.12212506                        | 0.00651522                            | 0.05550243          |
| 20B       | 70th Street West to Palmdale                                 |                               |                             | 0.02884441                             |                               | 0.12811683                        | 0.00683511                            | 0.05822670          |
| 21        | Palmdale to Littlerock Creek                                 |                               |                             | 0.02327543                             |                               | 0.13055246                        | 0.00696606                            | 0.05933989          |
| 22A       | Littlerock Creek to Pearblossom Pumping Plant                |                               |                             | 0.01190663                             |                               | 0.13241285                        | 0.00706574                            | 0.06018798          |
| 22B       | Pearblossom Pumping Plant to West Fork Mojave River          |                               |                             | 0.00195128                             |                               | 0.13374659                        | 0.00713697                            | 0.06079440          |
| 23        | West Fork Mojave River to Silverwood Lake                    |                               |                             |  |                               | 0.12416451                        | 0.00818135                            | 0.02168414          |
| 24        | Cedar Springs Dam and Silverwood Lake                        |                               |                             |  |                               | 0.02651510                        | 0.01251569                            | 0.01910229          |
| 25        | Silverwood Lake to South Portal San Bernardino Tunnel        |                               |                             |  |                               | 0.09751351                        | 0.01317145                            |                     |
| 26A       | South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.   |                               |                             |  |                               | 0.12013473                        | 0.01622697                            |                     |
| 28G       | Devil Canyon Powerplant to Barton Road                       |                               |                             |  |                               | 0.30672992                        | 0.04143095                            |                     |
| 28H       | Barton Road to Lake Perris                                   |                               |                             |  |                               | 0.32330286                        | 0.04366951                            |                     |
| 28J       | Perris Dam and Lake Perris                                   |                               |                             |  |                               | 0.32330202                        | 0.04366970                            |                     |
| 29A       | Junction, West Branch, Calif. Aqueduct thru Oso P. P.        |                               |                             | 0.00296720                             | 0.05726734                    |                                   |                                       |                     |
| 29F       | Oso Pumping Plant thru Quail Embankment                      |                               |                             | 0.00296796                             | 0.05726649                    |                                   |                                       |                     |
| 29G       | Quail Embankment thru Warne Powerplant                       |                               |                             |  | 0.05742327                    |                                   |                                       |                     |
| 29H       | Pyramid Dam and Lake   |                               |                             |  | 0.03349572                    |                                   |                                       |                     |
| 29J       | Pyramid Lake thru Castaic Powerplant                         |                               |                             |  | 0.05740996                    |                                   |                                       |                     |
| 30        | Castaic Dam and Lake   |                               |                             |  | 0.03248607                    |                                   |                                       |                     |
| 31A       | Avenal Gap to Devil's Den Pumping Plant                      | 0.10542164                    | 0.19449108                  |  | 0.07351496                    | 0.05400251                        |                                       | 0.01800084          |
| 33A       | Devil's Den Pumping Plant thru Tank 1                        | 0.10101221                    | 0.89898779                  |  |                               |                                   |                                       |                     |
| 33B       | Tank 1 thru Chorro Valley Turnout                            | 0.10101221                    | 0.89898779                  |  |                               |                                   |                                       |                     |
| 34        | Chorro Valley Turnout through Lopez Turnout                  | 0.05271277                    | 0.94728723                  |  |                               |                                   |                                       |                     |
| 35        | Lopez Turnout thru Guadalupe Turnout                         |                               | 1.00000000                  |  |                               |                                   |                                       |                     |

(a) Proportionate use factors apply to 2015, and reflect permanent capacity water transfers that have been signed as of February 1, 2014

**TABLE B-2 Factors for Distributing Reach Minimum OMP&R Costs Among Contractors<sup>a</sup>**

Sheet 2 of 2

| Reach No.                  | SAN JOAQUIN VALLEY AREA |                  |                               |                             |                                      |                                      |                          |              |                 |                         |  |
|----------------------------|-------------------------|------------------|-------------------------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------|-----------------|-------------------------|--|
|                            | Napa County FC&WCD      | Solano County WA | Alameda County FC&WCD, Zone 7 | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Municipal and Industrial | Agricultural | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District |
| <b>CALIFORNIA AQUEDUCT</b> |                         |                  |                               |                             |                                      |                                      |                          |              |                 |                         |  |
| 1                          | 0.00101482              | 0.00145895       | 0.02319903                    | 0.01467673                  | 0.00088461                           | 0.00254076                           | 0.02734568               | 0.27096833   | 0.00247145      | 0.00166714              | 0.02580275                               |
| 2A                         | 0.00106145              | 0.00152591       | 0.00868253                    | 0.01533481                  | 0.00092428                           | 0.00266141                           | 0.02862314               | 0.28310687   | 0.00258398      | 0.00174185              | 0.02695973                               |
| 2B                         | 0.00106360              | 0.00152905       | 0.00869823                    | 0.01537617                  | 0.00092676                           | 0.00266432                           | 0.02866783               | 0.28387747   | 0.00258988      |                         | 0.02703241                               |
| 3                          | 0.00106370              | 0.00152920       | 0.00869838                    | 0.01538045                  | 0.00092702                           | 0.00266381                           | 0.02866629               | 0.28395878   | 0.00259028      |                         | 0.02703994                               |
| 4                          | 0.00106379              | 0.00152934       | 0.00869854                    | 0.01538495                  | 0.00092729                           | 0.00266328                           | 0.02866467               | 0.28404425   | 0.00259071      |                         | 0.02704786                               |
| 5                          | 0.00106390              | 0.00152952       | 0.00869876                    | 0.01539058                  | 0.00092763                           | 0.00266262                           | 0.02866263               | 0.28415100   | 0.00259125      |                         | 0.02705775                               |
| 6                          | 0.00106409              | 0.00152980       | 0.00869909                    | 0.01539099                  | 0.00092815                           | 0.00266161                           | 0.02865956               | 0.28431251   | 0.00259206      |                         | 0.02707272                               |
| 7                          | 0.00106415              | 0.00152990       | 0.00869920                    | 0.01540183                  | 0.00092832                           | 0.00266127                           | 0.02865857               | 0.28436430   | 0.00259232      |                         | 0.02707752                               |
| 8C                         | 0.00105126              | 0.00151129       | 0.00859813                    | 0.01519240                  | 0.00091570                           | 0.00263462                           | 0.02834154               | 0.28048179   | 0.00255949      |                         | 0.02670939                               |
| 8D                         | 0.00107347              | 0.00154326       | 0.00877817                    | 0.01552187                  |                                      | 0.00268820                           | 0.02892910               | 0.28657021   | 0.00165698      |                         | 0.00825002                               |
| 9                          | 0.00079148              | 0.00109219       | 0.00779740                    |                             |                                      |                                      | 0.03115978               | 0.29020213   |                 |                         |  |
| 10A                        | 0.00080441              | 0.00110983       | 0.00792269                    |                             |                                      |                                      | 0.03165722               | 0.27906723   |                 |                         |  |
| 11B                        | 0.00064433              | 0.00094350       | 0.00351417                    |                             |                                      |                                      | 0.03473359               | 0.21569759   |                 |                         |  |
| 12D                        |                         |                  |                               |                             |                                      |                                      | 0.03644652               | 0.18305822   |                 |                         |  |
| 12E                        |                         |                  |                               |                             |                                      |                                      | 0.03650093               | 0.18194750   |                 |                         |  |
| 13B                        |                         |                  |                               |                             |                                      |                                      | 0.01398402               | 0.14058058   |                 |                         |  |
| 14A                        |                         |                  |                               |                             |                                      |                                      | 0.00593078               | 0.10814827   |                 |                         |  |
| 14B                        |                         |                  |                               |                             |                                      |                                      | 0.00602009               | 0.09952426   |                 |                         |  |
| 14C                        |                         |                  |                               |                             |                                      |                                      | 0.00617876               | 0.07848396   |                 |                         |  |
| 15A                        |                         |                  |                               |                             |                                      |                                      | 0.00627144               | 0.06500426   |                 |                         |  |
| 16A                        |                         |                  |                               |                             |                                      |                                      | 0.00648410               | 0.03392037   |                 |                         |  |
| 17E                        |                         |                  |                               |                             |                                      |                                      | 0.00198506               |              |                 |                         |  |
| 31A                        | 0.00628695              | 0.00977801       | 0.02617705                    |                             |                                      | 0.05037550                           |                          | 0.36716813   | 0.00176551      |                         |  |

| SOUTHERN CALIFORNIA AREA (continued) |                                      |                     |                         |   |   |                                |  |  |            |
|--------------------------------------|--------------------------------------|---------------------|-------------------------|---|---|--------------------------------|--|--|------------|
| Reach No.                            | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Municipal Water District | San Gabriel Valley Municipal Water District | San Gorgonio Pass Water Agency | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total      |
| <b>CALIFORNIA AQUEDUCT</b>           |                                      |                     |                         |   |   |                                |  |  |            |
| 1                                    | 0.00049038                           | 0.02116470          | 0.00458381              | 0.02355980                              | 0.00648455                                  | 0.00397230                     | 0.41532271   | 0.00427768                                   | 1.00000000 |
| 2A                                   | 0.00051367                           | 0.02214484          | 0.00480091              | 0.02466751                              | 0.00679050                                  | 0.00415906                     | 0.43501287   | 0.00448079                                   | 1.00000000 |
| 2B                                   | 0.00051423                           | 0.02218483          | 0.00480654              | 0.02470151                              | 0.00679919                                  | 0.00416478                     | 0.43550968   | 0.00448571                                   | 1.00000000 |
| 3                                    | 0.00051414                           | 0.02218522          | 0.00480573              | 0.02469885                              | 0.00679827                                  | 0.00416433                     | 0.43543260   | 0.00448486                                   | 1.00000000 |
| 4                                    | 0.00051405                           | 0.02218564          | 0.00480489              | 0.02469606                              | 0.00679730                                  | 0.00416387                     | 0.43535156   | 0.00448397                                   | 1.00000000 |
| 5                                    | 0.00051393                           | 0.02218616          | 0.00480382              | 0.02469256                              | 0.00679607                                  | 0.00416328                     | 0.43525035   | 0.00448285                                   | 1.00000000 |
| 6                                    | 0.00051372                           | 0.02218693          | 0.00480221              | 0.02468729                              | 0.00679422                                  | 0.00416240                     | 0.43509723   | 0.00448115                                   | 1.00000000 |
| 7                                    | 0.00051366                           | 0.02218719          | 0.00480171              | 0.02468559                              | 0.00679362                                  | 0.00416212                     | 0.43504813   | 0.00448061                                   | 1.00000000 |
| 8C                                   | 0.00050851                           | 0.02192962          | 0.00475278              | 0.02442260                              | 0.00672277                                  | 0.00411777                     | 0.44211780   | 0.00443571                                   | 1.00000000 |
| 8D                                   | 0.00051885                           | 0.02238875          | 0.00484976              | 0.02492516                              | 0.00686055                                  | 0.00420251                     | 0.45117880   | 0.00452595                                   | 1.00000000 |
| 9                                    | 0.00055796                           | 0.02061192          | 0.00521674              | 0.02683029                              | 0.00738240                                  | 0.00452372                     | 0.48549902   | 0.00486719                                   | 1.00000000 |
| 10A                                  | 0.00056659                           | 0.02092935          | 0.00529783              | 0.02725335                              | 0.00749802                                  | 0.00459505                     | 0.49310270   | 0.00494246                                   | 1.00000000 |
| 11B                                  | 0.00062024                           | 0.02290463          | 0.00580164              | 0.02987521                              | 0.00821533                                  | 0.00503710                     | 0.54027985   | 0.00541051                                   | 1.00000000 |
| 12D                                  | 0.00064998                           | 0.02399884          | 0.00599767              | 0.03133251                              | 0.00861365                                  | 0.00528280                     | 0.56647688   | 0.00566994                                   | 1.00000000 |
| 12E                                  | 0.00065079                           | 0.02402828          | 0.00600523              | 0.03137638                              | 0.00862529                                  | 0.00529020                     | 0.56724183   | 0.00567708                                   | 1.00000000 |
| 13B                                  | 0.00070354                           | 0.02597118          | 0.00649222              | 0.03395142                              | 0.00933012                                  | 0.00572435                     | 0.61359604   | 0.00613732                                   | 1.00000000 |
| 14A                                  | 0.00073704                           | 0.02720257          | 0.00680126              | 0.03559402                              | 0.00977890                                  | 0.00600130                     | 0.64311092   | 0.00642936                                   | 1.00000000 |
| 14B                                  | 0.00074743                           | 0.02758281          | 0.00689726              | 0.03611670                              | 0.00992049                                  | 0.00608943                     | 0.65242374   | 0.00652003                                   | 1.00000000 |
| 14C                                  | 0.00076634                           | 0.02827615          | 0.00707171              | 0.03705347                              | 0.01017549                                  | 0.00624735                     | 0.66919487   | 0.00668485                                   | 1.00000000 |
| 15A                                  | 0.00077741                           | 0.02668221          | 0.00717384              | 0.03760115                              | 0.01032464                                  | 0.00633968                     | 0.67900489   | 0.00678133                                   | 1.00000000 |
| 16A                                  | 0.00080298                           | 0.02962205          | 0.00740997              | 0.03886148                              | 0.01066844                                  | 0.00655218                     | 0.70161679   | 0.00700445                                   | 1.00000000 |
| 17E                                  | 0.00083480                           | 0.03079028          | 0.00770356              | 0.04043105                              | 0.01109636                                  | 0.00681681                     | 0.72976182   | 0.00728186                                   | 1.00000000 |
| 17F                                  | 0.00083646                           | 0.03085132          | 0.00771884              | 0.04051162                              | 0.01111844                                  | 0.00683040                     | 0.73121394   | 0.00729630                                   | 1.00000000 |
| 18A                                  | 0.00220155                           | 0.04929713          | 0.01652427              | 0.10664131                              | 0.02926634                                  | 0.01798005                     | 0.46986948   |  | 1.00000000 |
| 19                                   | 0.00220151                           | 0.04929585          | 0.01652388              | 0.10664396                              | 0.02926656                                  | 0.01798044                     | 0.46987231   |  | 1.00000000 |
| 19C                                  |                                      |                     |                         |   |   |                                |  |  | 1.00000000 |
| 20A                                  | 0.00237787                           | 0.05324421          | 0.01784728              | 0.11521174                              | 0.03161525                                  | 0.01942494                     | 0.50757898   |  | 1.00000000 |
| 20B                                  | 0.00249455                           | 0.05585607          | 0.01872278              | 0.12086783                              | 0.03136690                                  | 0.02037859                     | 0.53249023   |  | 1.00000000 |
| 21                                   | 0.00254183                           | 0.05691567          |                         | 0.12318381                              | 0.03380017                                  | 0.02076901                     | 0.54265567   |  | 1.00000000 |
| 22A                                  |                                      | 0.05772584          |                         | 0.12494639                              | 0.03428290                                  | 0.02106619                     | 0.55040548   |  | 1.00000000 |
| 22B                                  |                                      | 0.05830722          |                         | 0.12620561                              | 0.03462835                                  | 0.02127845                     | 0.55595113   |  | 1.00000000 |
| 23                                   |                                      |                     |                         | 0.14467451                              | 0.03969010                                  | 0.02439237                     | 0.63721302   |  | 1.00000000 |
| 24                                   |                                      |                     |                         | 0.22243002                              | 0.04339445                                  | 0.02843498                     | 0.64776047   |  | 1.00000000 |
| 25                                   |                                      |                     |                         | 0.11825184                              | 0.03722720                                  | 0.01993915                     | 0.71389685   |  | 1.00000000 |
| 26A                                  |                                      |                     |                         | 0.14947726                              | 0.03997501                                  | 0.02520426                     | 0.64898177   |  | 1.00000000 |
| 28G                                  |                                      |                     |                         | 0.05126136                              |   |                                | 0.60057777   |  | 1.00000000 |
| 28H                                  |                                      |                     |                         |   |   |                                | 0.63302763   |  | 1.00000000 |
| 28J                                  |                                      |                     |                         |   |   |                                | 0.63302828   |  | 1.00000000 |
| 29A                                  |                                      |                     |                         |   |   | 0.92702291                     | 0.01274255   |  | 1.00000000 |
| 29F                                  |                                      |                     |                         |   |   | 0.92702302                     | 0.01274253   |  | 1.00000000 |
| 29G                                  |                                      |                     |                         |   |   | 0.92979606                     | 0.01278067   |  | 1.00000000 |
| 29H                                  |                                      |                     |                         |   |   | 0.95753173                     | 0.00897255   |  | 1.00000000 |
| 29J                                  |                                      |                     |                         |   |   | 0.92980918                     | 0.01278086   |  | 1.00000000 |
| 30                                   |                                      |                     |                         |   |   | 0.95895422                     | 0.00855971   |  | 1.00000000 |
| 31A                                  |                                      | 0.09301782          |                         |   |   |                                |  |  | 1.00000000 |
| 33A                                  |                                      |                     |                         |   |   |                                |  |  | 1.00000000 |
| 33B                                  |                                      |                     |                         |   |   |                                |  |  | 1.00000000 |
| 34                                   |                                      |                     |                         |   |   |                                |  |  | 1.00000000 |
| 35                                   |                                      |                     |                         |   |   |                                |  |  | 1.00000000 |

(a) Proportionate use factors apply to 2015, and reflect permanent capacity water transfers that have been signed as of February 1, 2014

**TABLE B-3 Power Costs and Credits, Transmission Costs and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant <sup>a</sup>**

Sheet 1 of 3

| Calendar Year | (in dollars)             |                            |                              |                                  |                     |                       |                        |                    |
|---------------|--------------------------|----------------------------|------------------------------|----------------------------------|---------------------|-----------------------|------------------------|--------------------|
|               | NORTH BAY AQUEDUCT       |                            |                              | SOUTH BAY AQUEDUCT               | CALIFORNIA AQUEDUCT |                       |                        |                    |
|               | Reach 1                  | Reach 3A                   | Reach 3B                     | Reach 1 (c)                      | Reach 1             | Reach 4               | Reach 14A              | Reach 15A          |
| Calendar Year | Barker Slough Pumping P. | Cordelia Pumping P. Solano | Cordelia Pumping P. Napa (b) | South Bay & Del Valle Pumping P. | Banks Pumping P.    | Dos Amigos Pumping P. | Buena Vista Pumping P. | Teerink Pumping P. |
|               | [1]                      | [2]                        | [3]                          | [4]                              | [5]                 | [6]                   | [7]                    | [8]                |
| 1961          | 0                        | 0                          | 0                            | 0                                | 0                   | 0                     | 0                      | 0                  |
| 1962          | 0                        | 0                          | 0                            | 36,771                           | 0                   | 0                     | 0                      | 0                  |
| 1963          | 0                        | 0                          | 0                            | 55,654                           | 0                   | 0                     | 0                      | 0                  |
| 1964          | 0                        | 0                          | 0                            | 73,240                           | 0                   | 0                     | 0                      | 0                  |
| 1965          | 0                        | 0                          | 0                            | 137,665                          | 0                   | 0                     | 0                      | 0                  |
| 1966          | 0                        | 0                          | 0                            | 186,064                          | 0                   | 0                     | 0                      | 0                  |
| 1967          | 0                        | 0                          | 0                            | 216,515                          | 15,453              | 0                     | 0                      | 0                  |
| 1968          | 0                        | 0                          | 6,989                        | 336,671                          | 452,630             | 202,947               | 0                      | 0                  |
| 1969          | 0                        | 0                          | 8,551                        | 257,579                          | 293,741             | 135,425               | 0                      | 0                  |
| 1970          | 0                        | 0                          | 13,598                       | 396,358                          | 346,215             | 211,197               | 1                      | 0                  |
| 1971          | 0                        | 0                          | 10,609                       | 381,662                          | 574,015             | 225,188               | 115,801                | 2,564              |
| 1972          | 0                        | 0                          | 14,434                       | 598,702                          | 933,292             | 492,633               | 198,914                | 68,304             |
| 1973          | 0                        | 0                          | 14,449                       | 493,490                          | 688,030             | 381,232               | 263,468                | 236,623            |
| 1974          | 0                        | 0                          | 17,473                       | 565,575                          | 783,562             | 447,772               | 315,939                | 324,966            |
| 1975          | 0                        | 0                          | 14,779                       | 349,758                          | 1,341,019           | 518,322               | 508,060                | 552,952            |
| 1976          | 0                        | 0                          | 20,856                       | 571,361                          | 1,638,453           | 641,115               | 712,947                | 713,875            |
| 1977          | 0                        | 0                          | 22,635                       | 512,996                          | 1,013,307           | 277,439               | 265,169                | 300,985            |
| 1978          | 0                        | 0                          | 21,692                       | 586,355                          | 2,339,502           | 560,759               | 689,236                | 616,104            |
| 1979          | 0                        | 0                          | 16,237                       | 605,136                          | 3,554,256           | 1,008,564             | 776,016                | 749,188            |
| 1980          | 0                        | 0                          | 19,945                       | 523,369                          | 2,083,336           | 1,129,152             | 1,051,629              | 1,047,495          |
| 1981          | 0                        | 0                          | 23,842                       | 567,692                          | 3,952,931           | 1,939,189             | 1,336,867              | 1,319,739          |
| 1982          | 0                        | 0                          | 12,157                       | 605,780                          | 3,082,031           | 1,363,705             | 1,200,226              | 1,213,660          |
| 1983          | 0                        | 0                          | 2,342                        | 82,222                           | 1,001,612           | 396,086               | 450,801                | 432,165            |
| 1984          | 0                        | 0                          | 4,822                        | 271,543                          | 1,856,959           | 976,773               | 823,681                | 770,618            |
| 1985          | 0                        | 0                          | 10,188                       | 451,020                          | 3,186,029           | 1,621,418             | 1,409,980              | 1,411,621          |
| 1986          | 0                        | 0                          | 15,501                       | 807,984                          | 6,601,752           | 2,627,407             | 2,405,224              | 2,432,322          |
| 1987          | 0                        | 0                          | 27,223                       | 886,956                          | 5,820,699           | 2,555,341             | 2,295,575              | 2,286,066          |
| 1988          | 17,813                   | 0                          | 24,020                       | 909,300                          | 6,365,669           | 2,648,986             | 2,628,985              | 2,636,224          |
| 1989          | 29,819                   | 43,846                     | 26,519                       | 1,161,160                        | 9,964,956           | 4,002,409             | 4,130,033              | 4,159,440          |
| 1990          | 52,210                   | 67,109                     | 40,775                       | 1,834,626                        | 10,554,762          | 4,541,508             | 5,855,196              | 6,099,412          |
| 1991          | 10,429                   | 10,118                     | 5,252                        | 378,966                          | 1,994,449           | 510,781               | 944,445                | 1,077,662          |
| 1992          | 13,319                   | 13,070                     | 9,406                        | 311,251                          | 3,385,375           | 1,235,571             | 1,366,433              | 1,441,966          |
| 1993          | (11,941)                 | (8,753)                    | (5,392)                      | (158,214)                        | 537,591             | 348,409               | (127,617)              | (104,923)          |
| 1994          | 46,791                   | 39,624                     | 29,189                       | 799,624                          | 6,013,464           | 2,450,174             | 2,778,971              | 2,823,137          |
| 1995          | 20,014                   | 20,620                     | 11,791                       | 247,645                          | 4,066,595           | 1,532,502             | 952,304                | 877,047            |
| 1996          | 57,320                   | 47,288                     | 23,483                       | 619,160                          | 8,385,766           | 4,056,188             | 2,565,655              | 2,378,677          |
| 1997          | 67,416                   | 52,935                     | 21,955                       | 986,312                          | 7,010,228           | 2,870,194             | 2,637,433              | 2,469,147          |
| 1998          | (11,427)                 | (10,141)                   | (4,879)                      | (133,721)                        | 204,374             | (365,361)             | (319,014)              | (295,861)          |
| 1999          | 34,881                   | 25,288                     | 11,623                       | 507,549                          | 6,333,906           | 2,421,869             | 1,691,167              | 1,446,775          |
| 2000          | 58,113                   | 40,421                     | 14,847                       | 706,466                          | 7,849,458           | 3,020,023             | 2,891,468              | 3,052,117          |
| 2001          | 374,919                  | 250,132                    | 214,039                      | 4,248,059                        | 27,592,213          | 10,690,521            | 15,011,328             | 15,907,217         |
| 2002          | 192,540                  | 104,564                    | 61,470                       | 2,036,126                        | 17,666,689          | 7,284,182             | 8,870,415              | 9,554,380          |
| 2003          | 198,509                  | 118,446                    | 97,810                       | 2,592,633                        | 24,698,300          | 9,177,248             | 10,700,053             | 11,535,369         |
| 2004          | 261,564                  | 138,880                    | 106,974                      | 2,414,624                        | 22,854,796          | 9,426,446             | 12,567,612             | 13,722,260         |
| 2005          | 289,322                  | 146,837                    | 148,291                      | 2,773,818                        | 33,561,779          | 12,664,845            | 11,765,327             | 12,532,444         |
| 2006          | 231,646                  | 110,822                    | 143,783                      | 2,473,204                        | 23,274,172          | 10,059,712            | 11,063,183             | 11,835,390         |
| 2007          | 453,385                  | 223,276                    | 253,979                      | 4,745,772                        | 23,299,146          | 11,457,343            | 17,216,558             | 18,676,942         |
| 2008          | 406,994                  | 183,126                    | 293,675                      | 3,262,284                        | 14,018,652          | 6,267,150             | 11,024,961             | 12,718,735         |
| 2009          | 242,431                  | 114,019                    | 179,566                      | 2,755,951                        | 14,991,789          | 4,788,936             | 7,850,846              | 8,720,395          |
| 2010          | 263,027                  | 110,871                    | 218,665                      | 2,497,045                        | 27,421,416          | 9,915,364             | 11,196,109             | 11,791,214         |
| 2011          | 273,550                  | 114,447                    | 231,940                      | 3,358,456                        | 40,236,540          | 15,429,584            | 14,773,702             | 15,486,663         |
| 2012          | 280,705                  | 129,591                    | 197,764                      | 3,868,454                        | 24,854,784          | 12,843,792            | 14,952,646             | 15,239,920         |
| 2013          | 466,256                  | 219,196                    | 345,608                      | 5,543,567                        | 24,503,931          | 10,217,389            | 14,064,583             | 14,506,382         |
| 2014          | 446,202                  | 104,685                    | 426,121                      | 5,011,445                        | 19,126,329          | 5,816,875             | 10,767,667             | 11,050,959         |
| 2015          | 430,242                  | 227,195                    | 410,611                      | 5,662,800                        | 43,775,889          | 17,544,460            | 21,714,984             | 22,230,343         |
| 2016          | 422,692                  | 224,186                    | 403,397                      | 6,005,482                        | 44,329,445          | 17,492,276            | 21,691,288             | 22,204,492         |
| 2017          | 564,537                  | 302,861                    | 636,035                      | 6,152,429                        | 44,063,017          | 17,418,796            | 23,034,896             | 23,515,065         |
| 2018          | 564,537                  | 302,861                    | 636,035                      | 6,152,429                        | 30,242,210          | 17,418,796            | 23,034,896             | 23,515,065         |
| 2019          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 39,112,933          | 17,496,728            | 22,544,524             | 23,261,788         |
| 2020          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 36,839,771          | 17,496,728            | 22,548,579             | 23,266,186         |
| 2021          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 41,891,180          | 17,496,728            | 22,559,394             | 23,277,915         |
| 2022          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 35,865,012          | 17,496,728            | 22,571,560             | 23,291,111         |
| 2023          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 43,017,536          | 17,496,729            | 22,582,377             | 23,302,842         |
| 2024          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 37,653,911          | 17,496,727            | 22,594,539             | 23,316,033         |
| 2025          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 32,403,646          | 17,496,728            | 22,605,356             | 23,327,765         |
| 2026          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 40,322,016          | 17,496,728            | 22,612,115             | 23,335,095         |
| 2027          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 30,790,463          | 17,496,728            | 22,620,226             | 23,343,892         |
| 2028          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 42,992,414          | 17,496,728            | 22,626,985             | 23,351,223         |
| 2029          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 42,861,107          | 17,496,728            | 22,636,448             | 23,361,486         |
| 2030          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 32,231,180          | 17,496,728            | 22,644,559             | 23,370,283         |
| 2031          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 32,925,152          | 17,496,728            | 22,656,725             | 23,383,479         |
| 2032          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 34,336,698          | 17,496,728            | 22,667,539             | 23,395,207         |
| 2033          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 42,369,677          | 17,496,728            | 22,678,354             | 23,406,936         |
| 2034          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 36,839,771          | 17,496,728            | 22,689,168             | 23,418,665         |
| 2035          | 564,525                  | 305,418                    | 638,284                      | 5,869,252                        | 42,337,143          | 17,496,728            | 22,699,983             | 23,430,395         |
| <b>TOTAL</b>  | 16,344,741               | 8,659,524                  | 16,363,502                   | 190,060,103                      | 1,259,526,125       | 550,343,011           | 688,654,480            | 714,123,605        |

(a) Starting with 2005 transmission costs that vary and depend on Power usage are included, therefore recovered through the variable component.

(b) Power costs for the period 1968 through 1987 are for an interim facility.

(c) The costs of Del Valle Pumping Plant are combined with those of South Bay Pumping Plant to simplify the cost allocations.

**TABLE B-3 Power Costs and Credits, Transmission Costs and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant <sup>a</sup>**

(in dollars)

Sheet 2 of 3

| Calendar Year | CALIFORNIA AQUEDUCT (continued)  |                                   |                               |  |                                      |                                      |   |  |
|---------------|----------------------------------|-----------------------------------|-------------------------------|--|--------------------------------------|--------------------------------------|---|--|
|               | Reach 16A<br>Chrisman Pumping P. | Reach 17E<br>Edmonston Pumping P. | Reach 18A<br>Alamo Powerplant | Reach 22B<br>Pearblossom Pumping Plant | Reach 23<br>Mojave Siphon Powerplant | Reach 26A<br>Devil Canyon Powerplant | Reach 2B (EBX)<br>Greenspot Pumping Plant | Reach 3A (EBX)<br>Crafton Hills Pumping P. |
| [9]           | [10]                             | [11]                              | [12]                          | [13]                                   | [14]                                 | [15]                                 | [16]                                      |  |
| 1961          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1962          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1963          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1964          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1965          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1966          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1967          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1968          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1969          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1970          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1971          | 0                                | 0                                 | 0                             | 0                                      | 0                                    | 0                                    | 0   | 0  |
| 1972          | 142,902                          | 542,625                           | 0                             | 3,468                                  | 0                                    | (3,024)                              | 0   | 0  |
| 1973          | 387,198                          | 1,548,428                         | 0                             | 202,289                                | 0                                    | (461,268)                            | 0   | 0  |
| 1974          | 564,464                          | 2,164,223                         | 0                             | 324,993                                | 0                                    | (546,156)                            | 0   | 0  |
| 1975          | 1,095,331                        | 4,010,395                         | 0                             | 575,061                                | 0                                    | (1,095,523)                          | 0   | 0  |
| 1976          | 1,506,985                        | 5,443,936                         | 0                             | 889,544                                | 0                                    | (1,566,056)                          | 0   | 0  |
| 1977          | 652,643                          | 2,345,033                         | 0                             | 315,128                                | 0                                    | (1,222,866)                          | 0   | 0  |
| 1978          | 1,132,296                        | 4,180,131                         | 0                             | 1,508,115                              | 0                                    | (3,085,094)                          | 0   | 0  |
| 1979          | 1,526,850                        | 5,475,688                         | 0                             | 1,838,687                              | 0                                    | (3,466,481)                          | 0   | 0  |
| 1980          | 2,102,439                        | 7,028,235                         | 0                             | 1,762,063                              | 0                                    | (3,318,152)                          | 0   | 0  |
| 1981          | 2,838,773                        | 9,351,931                         | 0                             | 2,296,771                              | 0                                    | (3,842,971)                          | 0   | 0  |
| 1982          | 2,424,920                        | 8,352,207                         | 0                             | 1,498,620                              | 0                                    | (2,736,072)                          | 0   | 0  |
| 1983          | 793,915                          | 2,375,225                         | 0                             | 397,766                                | 0                                    | (5,478,830)                          | 0   | 0  |
| 1984          | 1,479,784                        | 4,585,198                         | 0                             | 624,213                                | 0                                    | (7,350,989)                          | 0   | 0  |
| 1985          | 2,812,461                        | 9,365,591                         | 0                             | 1,226,515                              | 0                                    | (10,748,103)                         | 0   | 0  |
| 1986          | 4,999,949                        | 16,956,023                        | (1,013,756)                   | 2,359,599                              | 0                                    | (11,484,996)                         | 0   | 0  |
| 1987          | 4,586,919                        | 15,121,886                        | (1,064,827)                   | 1,907,854                              | 0                                    | (11,151,140)                         | 0   | 0  |
| 1988          | 5,284,130                        | 17,342,811                        | (744,374)                     | 2,375,784                              | 0                                    | (14,495,967)                         | 0   | 0  |
| 1989          | 8,772,733                        | 29,455,330                        | (789,392)                     | 4,235,981                              | 0                                    | (18,688,631)                         | 0   | 0  |
| 1990          | 13,814,150                       | 49,027,449                        | (841,172)                     | 6,559,548                              | 0                                    | (21,045,321)                         | 0   | 0  |
| 1991          | 2,535,180                        | 9,033,684                         | (269,625)                     | 996,352                                | 0                                    | (4,884,013)                          | 0   | 0  |
| 1992          | 2,907,026                        | 9,754,469                         | (975,679)                     | 1,225,121                              | 0                                    | (9,782,946)                          | 0   | 0  |
| 1993          | (598,008)                        | (2,721,158)                       | (58,116)                      | (260,035)                              | 0                                    | (7,502,549)                          | 0   | 0  |
| 1994          | 5,941,789                        | 20,657,617                        | (60,125)                      | 2,644,592                              | 0                                    | (11,998,949)                         | 0   | 0  |
| 1995          | 1,752,212                        | 5,829,425                         | (1,324,810)                   | 1,106,460                              | 0                                    | (9,742,248)                          | 0   | 0  |
| 1996          | 5,050,986                        | 17,658,964                        | (2,955,178)                   | 2,833,791                              | (979,429)                            | (12,358,465)                         | 0   | 0  |
| 1997          | 5,545,919                        | 19,859,875                        | (2,572,220)                   | 3,156,995                              | (1,748,195)                          | (13,830,356)                         | 0   | 0  |
| 1998          | (664,843)                        | (2,312,472)                       | (2,016,390)                   | (443,482)                              | (1,253,110)                          | (10,108,555)                         | 0   | 0  |
| 1999          | 3,616,732                        | 13,967,075                        | (2,980,122)                   | 1,837,476                              | (2,587,958)                          | (15,232,207)                         | 0   | 0  |
| 2000          | 6,883,712                        | 24,753,968                        | (5,123,988)                   | 3,622,143                              | (4,402,610)                          | (25,758,437)                         | 0   | 0  |
| 2001          | 35,394,917                       | 129,212,359                       | (3,383,762)                   | 18,868,242                             | (3,714,425)                          | (20,062,834)                         | 0   | 0  |
| 2002          | 21,173,346                       | 77,461,814                        | (5,057,760)                   | 10,849,297                             | (5,371,837)                          | (25,292,454)                         | 0   | 0  |
| 2003          | 25,608,686                       | 94,057,399                        | (3,408,979)                   | 14,580,326                             | (6,565,620)                          | (27,777,638)                         | 0   | 0  |
| 2004          | 30,458,046                       | 111,866,623                       | (6,431,864)                   | 16,978,585                             | (7,858,117)                          | (32,044,505)                         | 78,351                                    | 68,735                                     |
| 2005          | 27,661,065                       | 97,703,918                        | (5,880,165)                   | 17,372,818                             | (6,454,740)                          | (28,818,797)                         | 69,550                                    | 48,964                                     |
| 2006          | 25,878,084                       | 87,353,635                        | (4,091,143)                   | 16,176,992                             | (6,391,206)                          | (34,897,387)                         | 139,168                                   | 152,477                                    |
| 2007          | 40,760,732                       | 140,256,411                       | (3,029,048)                   | 19,403,658                             | (5,896,486)                          | (28,814,592)                         | 270,007                                   | 265,495                                    |
| 2008          | 24,789,469                       | 85,863,671                        | (3,426,928)                   | 11,285,406                             | (3,300,797)                          | (16,968,293)                         | 271,495                                   | 347,089                                    |
| 2009          | 18,259,199                       | 70,377,883                        | (3,266,008)                   | 8,591,756                              | (2,288,833)                          | (13,842,660)                         | 352,008                                   | 370,086                                    |
| 2010          | 26,088,304                       | 95,622,228                        | (5,115,083)                   | 16,805,645                             | (5,653,201)                          | (24,769,829)                         | 330,097                                   | 435,098                                    |
| 2011          | 33,869,853                       | 118,603,333                       | (6,536,645)                   | 23,278,915                             | (7,792,422)                          | (32,285,174)                         | 389,197                                   | 504,647                                    |
| 2012          | 33,758,332                       | 118,181,282                       | (2,492,869)                   | 17,791,879                             | (8,905,115)                          | (23,525,846)                         | 480,981                                   | 570,016                                    |
| 2013          | 31,695,300                       | 111,773,698                       | (2,081,221)                   | 13,004,133                             | (4,915,165)                          | (14,305,918)                         | 513,831                                   | 601,249                                    |
| 2014          | 25,598,649                       | 93,290,399                        | (2,851,812)                   | 10,985,449                             | (3,334,131)                          | (7,394,250)                          | 554,180                                   | 691,611                                    |
| 2015          | <b>50,707,271</b>                | <b>182,134,958</b>                | <b>(7,944,878)</b>            | <b>29,480,202</b>                      | <b>(10,732,930)</b>                  | <b>(24,471,500)</b>                  | <b>457,515</b>                            | <b>570,974</b>                             |
| 2016          | 50,649,940                       | 181,942,854                       | (7,927,570)                   | 29,487,229                             | (10,675,257)                         | (24,329,000)                         | 459,074                                   | 572,920                                    |
| 2017          | 53,582,473                       | 196,659,184                       | (7,539,346)                   | 27,190,419                             | (9,771,028)                          | (22,269,178)                         | 502,519                                   | 627,139                                    |
| 2018          | 53,582,473                       | 196,659,180                       | (7,534,902)                   | 27,190,418                             | (9,771,027)                          | (22,269,178)                         | 502,519                                   | 627,139                                    |
| 2019          | 53,028,951                       | 194,448,492                       | (8,160,801)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2020          | 53,039,153                       | 194,486,442                       | (8,146,010)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2021          | 53,066,362                       | 194,587,652                       | (8,162,644)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2022          | 53,096,971                       | 194,701,504                       | (8,162,614)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2023          | 53,124,185                       | 194,802,727                       | (8,149,921)                   | 30,047,091                             | (10,797,589)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2024          | 53,154,785                       | 194,916,544                       | (8,162,512)                   | 30,047,080                             | (10,797,585)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2025          | 53,181,999                       | 195,017,773                       | (8,162,463)                   | 30,047,087                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2026          | 53,199,004                       | 195,081,022                       | (8,145,748)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2027          | 53,219,410                       | 195,156,924                       | (8,162,362)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2028          | 53,236,415                       | 195,220,175                       | (8,162,352)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2029          | 53,260,222                       | 195,308,735                       | (8,149,671)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2030          | 53,280,629                       | 195,384,637                       | (8,162,241)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2031          | 53,311,239                       | 195,498,495                       | (8,162,221)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2032          | 53,338,448                       | 195,599,697                       | (8,145,507)                   | 30,047,086                             | (10,797,587)                         | (24,575,462)                         | 502,519                                   | 627,139                                    |
| 2033          | 53,365,655                       | 195,700,900                       | (8,162,181)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2034          | 53,392,863                       | 195,802,103                       | (8,162,120)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| 2035          | 53,420,073                       | 195,903,308                       | (8,149,446)                   | 30,047,086                             | (10,797,587)                         | (24,575,461)                         | 502,519                                   | 627,139                                    |
| <b>TOTAL</b>  | <b>1,604,122,051</b>             | <b>5,817,791,751</b>              | <b>(249,460,571)</b>          | <b>887,743,244</b>                     | <b>(313,922,618)</b>                 | <b>(1,084,908,245)</b>               | <b>13,913,317</b>                         | <b>17,115,003</b>                          |

(a) Starting with 2005 transmission costs that vary and depend on Power usage are included, therefore recovered through the variable component.

**TABLE B-3 Power Costs and Credits, Transmission Costs and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant <sup>a</sup>**

(in dollars)

Sheet 3 of 3

| Calendar Year | CALIFORNIA AQUEDUCT (continued)         |                             |                            |                              |   |  | GRAND TOTAL          |
|---------------|---|-----------------------------|----------------------------|------------------------------|---|--|----------------------|
|               | Reach 4B (EBX) Cherry Valley Pumping P. | Reach 29A Oso Pumping Plant | Reach 29G Warne Powerplant | Reach 29J Castaic Powerplant | Reach 31A Las Perillas and Badger Hill Pumping Plants | Reach 33A Devil's Den, Bluestone and Polonio Pass Pumping Plants |                      |
|               | [17]                                    | [18]                        | [19]                       | [20]                         | [21]  | [22]   | [23]                 |
| 1961          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 0                    |
| 1962          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 36,771               |
| 1963          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 55,654               |
| 1964          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 73,240               |
| 1965          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 137,665              |
| 1966          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 186,064              |
| 1967          | 0                                       | 0                           | 0                          | 0                            | 0   | 0  | 231,968              |
| 1968          | 0                                       | 0                           | 0                          | 0                            | 118,676   | 0  | 1,117,913            |
| 1969          | 0                                       | 0                           | 0                          | 0                            | 78,350  | 0  | 773,646              |
| 1970          | 0                                       | 0                           | 0                          | 0                            | 136,429   | 0  | 1,103,798            |
| 1971          | 0                                       | 0                           | 0                          | 0                            | 166,296   | 0  | 1,476,135            |
| 1972          | 0                                       | 79,315                      | 0                          | (211,144)                    | 212,938   | 0  | 3,073,359            |
| 1973          | 0                                       | 122,787                     | 0                          | (1,057,564)                  | 114,897   | 0  | 2,934,059            |
| 1974          | 0                                       | 157,511                     | 0                          | (1,547,884)                  | 111,442   | 0  | 3,683,880            |
| 1975          | 0                                       | 314,636                     | 0                          | (2,455,461)                  | 88,451  | 0  | 5,817,780            |
| 1976          | 0                                       | 326,967                     | 0                          | (2,827,557)                  | 139,279   | 0  | 8,211,705            |
| 1977          | 0                                       | 75,335                      | 0                          | (3,734,462)                  | 63,079  | 0  | 886,421              |
| 1978          | 0                                       | 89,383                      | 0                          | (1,542,479)                  | 176,153   | 0  | 7,272,153            |
| 1979          | 0                                       | 102,584                     | 0                          | (2,776,030)                  | 188,881   | 0  | 9,599,576            |
| 1980          | 0                                       | 236,768                     | 0                          | (3,415,486)                  | 168,458   | 0  | 10,419,251           |
| 1981          | 0                                       | 444,280                     | 0                          | (2,834,322)                  | 169,177   | 0  | 17,563,899           |
| 1982          | 0                                       | 539,245                     | (783,626)                  | (3,463,971)                  | 168,390   | 0  | 13,477,272           |
| 1983          | 0                                       | 214,069                     | (1,488,439)                | (6,649,718)                  | 17,920  | 0  | (7,452,864)          |
| 1984          | 0                                       | 484,239                     | (4,088,209)                | (4,710,802)                  | 112,679   | 0  | (4,159,491)          |
| 1985          | 0                                       | 874,069                     | (5,930,176)                | (15,698,638)                 | 146,843   | 0  | (9,861,182)          |
| 1986          | 0                                       | 1,269,590                   | (5,579,301)                | (11,072,448)                 | 297,886   | 0  | 11,622,736           |
| 1987          | 0                                       | 1,355,533                   | (6,445,265)                | (11,726,458)                 | 245,082   | 0  | 6,701,444            |
| 1988          | 0                                       | 1,515,349                   | (7,457,050)                | (13,026,992)                 | 214,519   | 0  | 6,239,207            |
| 1989          | 0                                       | 2,156,915                   | (8,822,367)                | (15,535,849)                 | 282,180   | 0  | 24,585,082           |
| 1990          | 0                                       | 2,913,030                   | (11,225,401)               | (20,510,539)                 | 416,832   | 0  | 48,154,174           |
| 1991          | 0                                       | 576,721                     | (3,882,595)                | (6,579,194)                  | 3,610   | 0  | 2,462,222            |
| 1992          | 0                                       | 829,862                     | (6,369,339)                | (10,976,538)                 | 101,665   | 0  | (5,509,968)          |
| 1993          | 0                                       | 70,836                      | (4,665,393)                | (9,531,404)                  | (111,306)   | 0  | (24,907,973)         |
| 1994          | 0                                       | 1,503,796                   | (7,249,239)                | (13,126,331)                 | 206,086   | (1,127)  | 13,499,083           |
| 1995          | 0                                       | 247,869                     | (1,934,202)                | (4,049,615)                  | 243,434   | 0  | (142,957)            |
| 1996          | 0                                       | 895,929                     | (4,248,531)                | (8,457,232)                  | 296,170   | 0  | 15,870,542           |
| 1997          | 0                                       | 902,690                     | (4,824,488)                | (8,776,260)                  | 298,483   | 208,816  | 14,336,879           |
| 1998          | 0                                       | (67,399)                    | (1,811,154)                | (4,644,120)                  | (55,491)  | (92,902)   | (24,405,948)         |
| 1999          | 0                                       | 731,865                     | (5,831,573)                | (9,811,777)                  | 166,036   | 234,077  | (3,417,317)          |
| 2000          | 0                                       | 1,250,249                   | (10,161,472)               | (17,729,381)                 | 218,543   | 361,521  | (8,452,838)          |
| 2001          | 0                                       | 6,480,791                   | (7,918,467)                | (13,370,061)                 | 1,072,998   | 2,162,821  | 219,031,010          |
| 2002          | 0                                       | 4,246,409                   | (11,349,183)               | (19,513,997)                 | 547,531   | 1,344,783  | 94,808,314           |
| 2003          | 0                                       | 4,644,398                   | (10,436,555)               | (17,134,431)                 | 638,251   | 1,539,716  | 134,863,941          |
| 2004          | 7,271                                   | 5,667,657                   | (12,281,228)               | (21,354,179)                 | 673,974   | 1,799,785  | 149,122,292          |
| 2005          | 2,568                                   | 3,693,925                   | (7,106,531)                | (13,339,416)                 | 852,818   | 1,738,896  | 161,427,536          |
| 2006          | 18,724                                  | 2,828,104                   | (7,208,025)                | (12,042,760)                 | 834,329   | 1,487,207  | 129,430,110          |
| 2007          | 14,439                                  | 7,671,084                   | (11,444,524)               | (21,845,299)                 | 1,319,134   | 2,310,113  | 217,567,526          |
| 2008          | 10,854                                  | 4,984,155                   | (7,762,363)                | (14,997,326)                 | 1,103,802   | 1,643,974  | 132,019,786          |
| 2009          | 9,783                                   | 4,315,147                   | (6,997,502)                | (16,308,270)                 | 781,722   | 1,117,982  | 101,116,227          |
| 2010          | 22,485                                  | 3,821,649                   | (6,643,531)                | (11,641,405)                 | 932,791   | 1,499,909  | 155,148,868          |
| 2011          | 36,135                                  | 3,565,586                   | (5,996,974)                | (10,892,193)                 | 1,144,443   | 2,168,966  | 209,962,550          |
| 2012          | 54,199                                  | 5,828,694                   | (8,863,057)                | (15,797,149)                 | 1,093,544   | 2,104,719  | 192,647,266          |
| 2013          | 71,350                                  | 7,190,512                   | (9,189,037)                | (15,851,695)                 | 1,522,535   | 2,182,745  | 192,079,230          |
| 2014          | 82,382                                  | 6,173,761                   | (5,543,500)                | (9,133,000)                  | 140,848   | 173,145  | 162,184,014          |
| 2015          | 75,040                                  | 8,141,717                   | (8,436,250)                | (14,028,750)                 | 1,600,042   | 4,904,547  | 324,454,482          |
| 2016          | 107,371                                 | 8,085,283                   | (8,364,000)                | (13,890,500)                 | 1,590,836   | 4,889,448  | 325,371,886          |
| 2017          | 125,251                                 | 10,215,102                  | (9,680,593)                | (16,303,278)                 | 825,539   | 5,388,023  | 345,239,862          |
| 2018          | 129,236                                 | 10,215,102                  | (9,680,476)                | (16,303,278)                 | 825,539   | 5,388,023  | 331,427,597          |
| 2019          | 120,769                                 | 8,517,571                   | (8,571,825)                | (13,566,322)                 | 815,463   | 5,229,730  | 337,459,175          |
| 2020          | 120,769                                 | 8,522,040                   | (8,549,109)                | (13,573,528)                 | 815,463   | 5,229,730  | 335,277,388          |
| 2021          | 120,769                                 | 8,533,957                   | (8,559,966)                | (13,592,742)                 | 815,463   | 5,229,730  | 340,444,972          |
| 2022          | 120,769                                 | 8,547,364                   | (8,601,046)                | (13,614,359)                 | 815,463   | 5,229,729  | 334,539,367          |
| 2023          | 120,769                                 | 8,559,282                   | (8,611,017)                | (13,633,574)                 | 815,463   | 5,229,729  | 341,838,305          |
| 2024          | 120,769                                 | 8,572,689                   | (8,626,716)                | (13,655,191)                 | 815,463   | 5,229,730  | 336,607,941          |
| 2025          | 120,769                                 | 8,584,607                   | (8,607,924)                | (13,674,405)                 | 815,463   | 5,229,730  | 331,520,219          |
| 2026          | 120,769                                 | 8,592,055                   | (8,616,948)                | (13,686,414)                 | 815,463   | 5,229,730  | 339,536,061          |
| 2027          | 120,769                                 | 8,600,993                   | (8,625,714)                | (13,700,826)                 | 815,463   | 5,229,730  | 330,086,870          |
| 2028          | 120,769                                 | 8,608,441                   | (8,660,064)                | (13,712,835)                 | 815,463   | 5,229,729  | 342,344,266          |
| 2029          | 120,769                                 | 8,618,869                   | (8,671,178)                | (13,729,648)                 | 815,463   | 5,229,729  | 342,340,234          |
| 2030          | 120,769                                 | 8,627,808                   | (8,679,944)                | (13,744,059)                 | 815,463   | 5,229,730  | 331,796,716          |
| 2031          | 120,769                                 | 8,641,215                   | (8,662,585)                | (13,765,676)                 | 815,463   | 5,229,730  | 332,669,687          |
| 2032          | 120,769                                 | 8,653,132                   | (8,676,824)                | (13,784,890)                 | 815,463   | 5,229,730  | 334,227,364          |
| 2033          | 120,769                                 | 8,665,050                   | (8,716,471)                | (13,804,105)                 | 815,463   | 5,229,729  | 342,347,679          |
| 2034          | 120,769                                 | 8,676,967                   | (8,705,332)                | (13,823,320)                 | 815,463   | 5,229,729  | 336,972,629          |
| 2035          | 120,769                                 | 8,688,885                   | (8,718,738)                | (13,842,535)                 | 815,463   | 5,229,729  | 342,612,932          |
| <b>TOTAL</b>  | <b>2,820,161</b>                        | <b>274,194,024</b>          | <b>(404,560,997)</b>       | <b>(725,131,072)</b>         | <b>36,565,615</b>                                     | <b>133,460,589</b>   | <b>9,453,817,342</b> |

(a) Starting with 2005 transmission costs that vary and depend on Power usage are included, therefore recovered through the variable component.

## Tables B-4 through B-31

Note: Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

**TABLE B-4 Maximum Contractual Table A Amounts**

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA         |                  |                  | SOUTH BAY AREA (a)            |                               |                                   |                   | CENTRAL COASTAL AREA          |                             |                  |
|---------------|------------------------|------------------|------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------|-------------------------------|-----------------------------|------------------|
|               | Napa (b) County FC&WCD | Solano County WA | Total            | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total             | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total            |
|               | [1]                    | [2]              | [3]              | [4]                           | [5]                           | [6]                               | [7]               | [8]                           | [9]                         | [10]             |
| 1962          | 0                      | 0                | 0                | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                |
| 1963          | 0                      | 0                | 0                | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                |
| 1964          | 0                      | 0                | 0                | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                |
| 1965          | 0                      | 0                | 0                | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                |
| 1966          | 0                      | 0                | 0                | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                |
| 1967          | 0                      | 0                | 0                | 507                           | 5,248                         | 5,783                             | 11,538            | 0                             | 0                           | 0                |
| 1968          | 0                      | 0                | 0                | 6,900                         | 15,000                        | 88,000                            | 109,900           | 0                             | 0                           | 0                |
| 1969          | 0                      | 0                | 0                | 8,200                         | 15,500                        | 75,000                            | 98,700            | 0                             | 0                           | 0                |
| 1970          | 0                      | 0                | 0                | 10,000                        | 16,200                        | 88,000                            | 114,200           | 0                             | 0                           | 0                |
| 1971          | 0                      | 0                | 0                | 11,200                        | 17,000                        | 88,000                            | 116,200           | 0                             | 0                           | 0                |
| 1972          | 0                      | 0                | 0                | 12,400                        | 17,900                        | 88,000                            | 118,300           | 0                             | 0                           | 0                |
| 1973          | 0                      | 0                | 0                | 13,600                        | 18,800                        | 88,000                            | 120,400           | 0                             | 0                           | 0                |
| 1974          | 0                      | 0                | 0                | 14,800                        | 19,600                        | 88,000                            | 122,400           | 0                             | 0                           | 0                |
| 1975          | 0                      | 0                | 0                | 16,000                        | 20,500                        | 88,000                            | 124,500           | 0                             | 0                           | 0                |
| 1976          | 0                      | 0                | 0                | 17,200                        | 21,300                        | 88,000                            | 126,500           | 0                             | 0                           | 0                |
| 1977          | 0                      | 0                | 0                | 18,400                        | 22,200                        | 88,000                            | 128,600           | 0                             | 0                           | 0                |
| 1978          | 0                      | 0                | 0                | 19,600                        | 23,100                        | 88,000                            | 130,700           | 0                             | 0                           | 0                |
| 1979          | 0                      | 0                | 0                | 20,800                        | 23,900                        | 88,000                            | 132,700           | 0                             | 0                           | 0                |
| 1980          | 0                      | 500              | 500              | 22,000                        | 24,800                        | 88,000                            | 134,800           | 1,000                         | 946                         | 1,946            |
| 1981          | 0                      | 650              | 650              | 23,000                        | 26,000                        | 88,000                            | 137,000           | 1,000                         | 1,813                       | 2,813            |
| 1982          | 0                      | 800              | 800              | 24,000                        | 27,200                        | 88,000                            | 139,200           | 2,000                         | 3,626                       | 5,626            |
| 1983          | 0                      | 950              | 950              | 25,000                        | 28,400                        | 88,000                            | 141,400           | 3,000                         | 5,439                       | 8,439            |
| 1984          | 0                      | 1,100            | 1,100            | 26,000                        | 29,600                        | 88,000                            | 143,600           | 4,500                         | 8,198                       | 12,698           |
| 1985          | 0                      | 1,250            | 1,250            | 27,000                        | 30,800                        | 88,000                            | 145,800           | 7,500                         | 13,638                      | 21,138           |
| 1986          | 0                      | 1,400            | 1,400            | 28,000                        | 32,100                        | 88,000                            | 148,100           | 10,000                        | 18,210                      | 28,210           |
| 1987          | 0                      | 1,550            | 1,550            | 29,000                        | 33,300                        | 88,000                            | 150,300           | 12,500                        | 22,704                      | 35,204           |
| 1988          | 5,745                  | 9,726            | 15,471           | 30,000                        | 34,500                        | 88,000                            | 152,500           | 15,500                        | 28,222                      | 43,722           |
| 1989          | 6,195                  | 18,420           | 24,615           | 31,000                        | 35,700                        | 90,000                            | 156,700           | 20,000                        | 36,342                      | 56,342           |
| 1990          | 6,940                  | 21,250           | 28,190           | 32,000                        | 36,900                        | 92,000                            | 160,900           | 25,000                        | 45,486                      | 70,486           |
| 1991          | 7,290                  | 22,300           | 29,590           | 34,000                        | 38,400                        | 94,000                            | 166,400           | 25,000                        | 45,486                      | 70,486           |
| 1992          | 7,840                  | 24,170           | 32,010           | 36,000                        | 39,900                        | 96,000                            | 171,900           | 25,000                        | 45,486                      | 70,486           |
| 1993          | 8,490                  | 26,130           | 34,620           | 38,000                        | 41,400                        | 98,000                            | 177,400           | 25,000                        | 45,486                      | 70,486           |
| 1994          | 9,135                  | 28,080           | 37,215           | 40,000                        | 42,000                        | 100,000                           | 182,000           | 25,000                        | 45,486                      | 70,486           |
| 1995          | 9,780                  | 34,250           | 44,030           | 42,000                        | 42,000                        | 100,000                           | 184,000           | 25,000                        | 45,486                      | 70,486           |
| 1996          | 10,425                 | 37,800           | 48,225           | 44,000                        | 42,000                        | 100,000                           | 186,000           | 25,000                        | 45,486                      | 70,486           |
| 1997          | 11,065                 | 38,250           | 49,315           | 46,000                        | 42,000                        | 100,000                           | 188,000           | 6,215                         | 38,986                      | 45,201           |
| 1998          | 11,710                 | 38,710           | 50,420           | 46,000                        | 42,000                        | 100,000                           | 188,000           | 6,215                         | 38,986                      | 45,201           |
| 1999          | 15,850                 | 39,170           | 55,020           | 46,000                        | 42,000                        | 100,000                           | 188,000           | 25,000                        | 45,486                      | 70,486           |
| 2000          | 16,325                 | 39,620           | 55,945           | 68,000                        | 42,000                        | 100,000                           | 210,000           | 25,000                        | 45,486                      | 70,486           |
| 2001          | 20,725                 | 45,836           | 66,561           | 78,000                        | 42,000                        | 100,000                           | 220,000           | 25,000                        | 45,486                      | 70,486           |
| 2002          | 21,100                 | 46,296           | 67,396           | 78,000                        | 42,000                        | 100,000                           | 220,000           | 25,000                        | 45,486                      | 70,486           |
| 2003          | 21,475                 | 46,756           | 68,231           | 78,400                        | 42,000                        | 100,000                           | 220,400           | 25,000                        | 45,486                      | 70,486           |
| 2004          | 21,850                 | 47,206           | 69,056           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2005          | 22,225                 | 47,256           | 69,481           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2006          | 22,550                 | 47,306           | 69,856           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2007          | 22,875                 | 47,356           | 70,231           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2008          | 23,200                 | 47,406           | 70,606           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2009          | 23,525                 | 47,456           | 70,981           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2010          | 29,025                 | 47,506           | 76,531           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2011          | 29,025                 | 47,556           | 76,581           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2012          | 29,025                 | 47,606           | 76,631           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2013          | 29,025                 | 47,656           | 76,681           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2014          | 29,025                 | 47,706           | 76,731           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2015          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2016          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2017          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2018          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2019          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2020          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2021          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2022          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2023          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2024          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2025          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2026          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2027          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2028          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2029          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2030          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2031          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2032          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2033          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2034          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| 2035          | 29,025                 | 47,756           | 76,781           | 80,619                        | 42,000                        | 100,000                           | 222,619           | 25,000                        | 45,486                      | 70,486           |
| <b>TOTAL</b>  | <b>1,080,965</b>       | <b>2,049,856</b> | <b>3,130,821</b> | <b>3,720,815</b>              | <b>2,459,248</b>              | <b>6,510,783</b>                  | <b>12,690,846</b> | <b>1,189,430</b>              | <b>2,218,494</b>            | <b>3,407,924</b> |

(a) Table A Amounts for the South Bay Area were supplied by non-project water for the period June 1962 through November 1967. Actual delivery quantities of project water are shown for 1967.

(b) District's Table A quantities exclude amounts during the period 1968 through 1987 that were supplied by non-project water.

**TABLE B-4 Maximum Contractual Table A Amounts**

(in acre-feet)

Sheet 2 of 4

| Calendar Year | SAN JOAQUIN VALLEY AREA     |                                      |                          |              |            |                 |                         |  |            |
|---------------|-----------------------------|--------------------------------------|--------------------------|--------------|------------|-----------------|-------------------------|--|------------|
|               | Dudley Ridge Water District | Empire West Side Irrigation District | Kern County Water Agency |              |            | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District |            |
|               |                             |                                      | Municipal and Industrial | Agricultural | Total      |                 |                         |  |            |
|               | [11]                        | [12]                                 | [13]                     | [14]         | [15]       | [16]            | [17]                    | [18]                                     | [19]       |
| 1962          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1963          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1964          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1965          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1966          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1967          | 0                           | 0                                    | 0                        | 0            | 0          | 0               | 0                       | 0  | 0          |
| 1968          | 14,300                      | 1,000                                | 0                        | 46,600       | 46,600     | 900             | 2,300                   | 12,250                                   | 77,350     |
| 1969          | 14,325                      | 3,000                                | 0                        | 95,700       | 95,700     | 1,200           | 2,500                   | 46,350                                   | 163,075    |
| 1970          | 15,700                      | 3,000                                | 28,700                   | 116,400      | 145,100    | 1,300           | 2,600                   | 34,300                                   | 202,000    |
| 1971          | 17,900                      | 3,000                                | 35,700                   | 154,600      | 190,300    | 1,300           | 2,800                   | 36,500                                   | 251,800    |
| 1972          | 20,000                      | 3,000                                | 39,200                   | 231,500      | 270,700    | 1,400           | 3,366                   | 112,600                                  | 413,066    |
| 1973          | 22,000                      | 3,000                                | 43,500                   | 267,000      | 310,500    | 1,500           | 3,100                   | 43,552                                   | 383,652    |
| 1974          | 33,390                      | 3,000                                | 48,000                   | 299,000      | 347,000    | 1,500           | 3,471                   | 72,289                                   | 460,650    |
| 1975          | 40,555                      | 3,000                                | 52,700                   | 358,120      | 410,820    | 1,600           | 3,576                   | 86,258                                   | 545,809    |
| 1976          | 30,921                      | 3,000                                | 56,100                   | 386,050      | 442,150    | 1,600           | 4,039                   | 61,707                                   | 543,417    |
| 1977          | 30,400                      | 3,000                                | 60,600                   | 423,000      | 483,600    | 1,700           | 3,700                   | 59,000                                   | 581,400    |
| 1978          | 32,500                      | 0                                    | 64,100                   | 470,200      | 534,300    | 1,900           | 3,900                   | 63,300                                   | 635,900    |
| 1979          | 38,544                      | 3,000                                | 67,600                   | 516,300      | 583,900    | 2,000           | 4,000                   | 71,241                                   | 702,685    |
| 1980          | 41,000                      | 3,000                                | 71,100                   | 563,400      | 634,500    | 2,200           | 5,700                   | 71,700                                   | 758,100    |
| 1981          | 41,000                      | 3,000                                | 74,800                   | 616,600      | 691,400    | 2,300           | 4,300                   | 76,000                                   | 818,000    |
| 1982          | 41,000                      | 3,000                                | 79,600                   | 665,700      | 745,300    | 2,500           | 4,500                   | 80,200                                   | 876,500    |
| 1983          | 42,900                      | 3,000                                | 83,500                   | 721,600      | 805,100    | 2,800           | 3,770                   | 9,548                                    | 867,118    |
| 1984          | 45,100                      | 3,000                                | 103,600                  | 757,000      | 860,600    | 3,100           | 4,800                   | 62,611                                   | 979,211    |
| 1985          | 47,200                      | 3,000                                | 108,900                  | 806,100      | 915,000    | 3,400           | 4,900                   | 45,549                                   | 1,019,049  |
| 1986          | 49,300                      | 3,000                                | 113,400                  | 820,246      | 933,646    | 3,700           | 5,100                   | 97,200                                   | 1,091,946  |
| 1987          | 51,400                      | 3,000                                | 119,100                  | 904,400      | 1,023,500  | 4,000           | 5,200                   | 101,400                                  | 1,188,500  |
| 1988          | 53,500                      | 3,000                                | 123,900                  | 950,700      | 1,074,600  | 4,000           | 5,400                   | 105,600                                  | 1,246,100  |
| 1989          | 55,600                      | 3,000                                | 128,200                  | 984,100      | 1,112,300  | 4,000           | 5,600                   | 109,900                                  | 1,290,400  |
| 1990          | 28,850                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,313,450  |
| 1991          | 53,411                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,338,011  |
| 1992          | 57,700                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,342,300  |
| 1993          | 57,700                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,342,300  |
| 1994          | 57,700                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,342,300  |
| 1995          | 57,700                      | 3,000                                | 134,600                  | 1,018,800    | 1,153,400  | 4,000           | 5,700                   | 118,500                                  | 1,342,300  |
| 1996          | 53,370                      | 3,000                                | 134,600                  | 982,460      | 1,117,060  | 4,000           | 5,700                   | 118,500                                  | 1,301,630  |
| 1997          | 53,370                      | 3,000                                | 134,600                  | 978,130      | 1,112,730  | 4,000           | 5,700                   | 118,500                                  | 1,297,300  |
| 1998          | 53,370                      | 3,000                                | 134,600                  | 953,130      | 1,087,730  | 4,000           | 5,700                   | 118,500                                  | 1,272,300  |
| 1999          | 53,370                      | 3,000                                | 134,600                  | 953,130      | 1,087,730  | 4,000           | 5,700                   | 118,500                                  | 1,272,300  |
| 2000          | 53,370                      | 3,000                                | 134,600                  | 866,130      | 1,020,730  | 4,000           | 5,700                   | 118,500                                  | 1,205,300  |
| 2001          | 53,370                      | 3,000                                | 134,600                  | 866,349      | 1,000,949  | 4,000           | 5,700                   | 118,500                                  | 1,185,519  |
| 2002          | 57,343                      | 3,000                                | 134,600                  | 866,349      | 1,000,949  | 4,000           | 5,700                   | 111,127                                  | 1,182,519  |
| 2003          | 57,343                      | 3,000                                | 134,600                  | 866,349      | 1,000,949  | 4,000           | 5,700                   | 111,127                                  | 1,182,119  |
| 2004          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,000           | 5,700                   | 96,227                                   | 1,170,000  |
| 2005          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,000           | 5,700                   | 96,227                                   | 1,170,000  |
| 2006          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,305           | 5,700                   | 95,922                                   | 1,170,000  |
| 2007          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,305           | 5,700                   | 95,922                                   | 1,170,000  |
| 2008          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,305           | 5,700                   | 95,922                                   | 1,170,000  |
| 2009          | 57,343                      | 3,000                                | 134,600                  | 864,130      | 998,730    | 9,305           | 5,700                   | 95,922                                   | 1,170,000  |
| 2010          | 50,343                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 88,922                                   | 1,140,000  |
| 2011          | 50,343                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 88,922                                   | 1,140,000  |
| 2012          | 50,343                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 88,922                                   | 1,140,000  |
| 2013          | 50,343                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 88,922                                   | 1,140,000  |
| 2014          | 48,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,136,556  |
| 2015          | 45,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,133,556  |
| 2016          | 45,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,133,556  |
| 2017          | 45,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,133,556  |
| 2018          | 45,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,133,556  |
| 2019          | 45,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,133,556  |
| 2020          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2021          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2022          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2023          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2024          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2025          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2026          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2027          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2028          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2029          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2030          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2031          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2032          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2033          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2034          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| 2035          | 41,350                      | 3,000                                | 134,600                  | 848,130      | 982,730    | 9,305           | 5,700                   | 87,471                                   | 1,129,556  |
| <b>TOTAL</b>  | 3,008,632                   | 199,000                              | 7,693,900                | 51,855,303   | 59,549,203 | 403,050         | 352,822                 | 5,959,901                                | 69,472,608 |

**TABLE B-4 Maximum Contractual Table A Amounts**

(in acre-feet)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [20]                                   | [21]                      | [22]                            | [23]                                  | [24]                | [25]                                 | [26]                | [27]                    | [28]   | [29]  |
| 1962          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1963          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1964          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1965          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1966          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1967          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1968          | 0                                      | 3,700                     | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1969          | 0                                      | 5,000                     | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1970          | 0                                      | 5,700                     | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1971          | 0                                      | 6,700                     | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1972          | 20,000                                 | 8,936                     | 5,200                           | 526                                   | 8,000               | 170                                  | 8,400               | 1,620                   | 1,677  | 122   |
| 1973          | 25,000                                 | 12,400                    | 5,800                           | 870                                   | 9,000               | 290                                  | 10,700              | 2,940                   | 48,000   | 11,500                                      |
| 1974          | 30,000                                 | 15,400                    | 6,400                           | 1,160                                 | 10,000              | 400                                  | 13,100              | 4,260                   | 50,000   | 12,300                                      |
| 1975          | 35,000                                 | 18,200                    | 7,000                           | 1,450                                 | 11,000              | 520                                  | 15,400              | 5,580                   | 52,500   | 13,100                                      |
| 1976          | 44,000                                 | 21,200                    | 7,600                           | 1,740                                 | 12,000              | 640                                  | 17,800              | 6,900                   | 55,000   | 14,000                                      |
| 1977          | 50,000                                 | 24,100                    | 8,421                           | 2,030                                 | 13,000              | 730                                  | 20,200              | 8,220                   | 57,500   | 14,800                                      |
| 1978          | 57,000                                 | 24,762                    | 9,242                           | 2,320                                 | 14,000              | 920                                  | 0                   | 9,340                   | 60,000   | 15,700                                      |
| 1979          | 63,000                                 | 28,000                    | 10,063                          | 2,610                                 | 15,000              | 1,040                                | 24,900              | 10,260                  | 62,500   | 16,600                                      |
| 1980          | 69,200                                 | 30,400                    | 10,884                          | 2,900                                 | 17,000              | 1,150                                | 27,200              | 11,180                  | 65,500   | 17,400                                      |
| 1981          | 75,000                                 | 32,800                    | 12,105                          | 3,190                                 | 19,000              | 1,270                                | 23,100              | 11,700                  | 68,500   | 18,300                                      |
| 1982          | 81,300                                 | 34,800                    | 13,326                          | 3,480                                 | 21,000              | 1,380                                | 22,843              | 12,320                  | 71,500   | 19,100                                      |
| 1983          | 87,700                                 | 37,300                    | 14,547                          | 3,770                                 | 23,000              | 1,500                                | 34,300              | 12,940                  | 74,500   | 19,900                                      |
| 1984          | 35,000                                 | 39,600                    | 15,768                          | 4,060                                 | 25,000              | 1,610                                | 36,700              | 13,560                  | 78,000   | 20,700                                      |
| 1985          | 40,000                                 | 41,800                    | 16,989                          | 4,350                                 | 27,000              | 1,730                                | 39,000              | 14,180                  | 81,500   | 21,800                                      |
| 1986          | 42,000                                 | 43,600                    | 18,210                          | 4,640                                 | 29,000              | 1,840                                | 41,400              | 14,800                  | 85,000   | 23,200                                      |
| 1987          | 44,000                                 | 45,600                    | 19,431                          | 4,930                                 | 31,500              | 1,960                                | 43,700              | 15,420                  | 89,000   | 24,600                                      |
| 1988          | 46,000                                 | 48,000                    | 20,652                          | 5,220                                 | 34,000              | 2,070                                | 46,000              | 16,040                  | 93,000   | 26,000                                      |
| 1989          | 125,700                                | 50,100                    | 21,873                          | 5,510                                 | 36,500              | 2,190                                | 48,500              | 16,660                  | 97,000   | 27,400                                      |
| 1990          | 132,100                                | 52,000                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 101,500  | 28,800                                      |
| 1991          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1992          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1993          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1994          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1995          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1996          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1997          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 50,800              | 17,300                  | 102,600  | 28,800                                      |
| 1998          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 17,300                  | 102,600  | 28,800                                      |
| 1999          | 138,400                                | 54,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 17,300                  | 102,600  | 28,800                                      |
| 2000          | 138,400                                | 95,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2001          | 138,400                                | 95,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2002          | 141,400                                | 95,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2003          | 141,400                                | 95,200                    | 23,100                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2004          | 141,400                                | 95,200                    | 33,000                          | 5,800                                 | 38,100              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2005          | 141,400                                | 95,200                    | 121,100                         | 5,800                                 | 50,000              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2006          | 141,400                                | 95,200                    | 121,100                         | 5,800                                 | 50,000              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2007          | 141,400                                | 95,200                    | 121,100                         | 5,800                                 | 50,000              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2008          | 141,400                                | 95,200                    | 121,100                         | 5,800                                 | 50,000              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2009          | 141,400                                | 95,200                    | 121,100                         | 5,800                                 | 50,000              | 2,300                                | 75,800              | 21,300                  | 102,600  | 28,800                                      |
| 2010          | 141,400                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 82,800              | 21,300                  | 102,600  | 28,800                                      |
| 2011          | 141,400                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 82,800              | 21,300                  | 102,600  | 28,800                                      |
| 2012          | 141,400                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 82,800              | 21,300                  | 102,600  | 28,800                                      |
| 2013          | 141,400                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 82,800              | 21,300                  | 102,600  | 28,800                                      |
| 2014          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 82,800              | 21,300                  | 102,600  | 28,800                                      |
| 2015          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 85,800              | 21,300                  | 102,600  | 28,800                                      |
| 2016          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 85,800              | 21,300                  | 102,600  | 28,800                                      |
| 2017          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 85,800              | 21,300                  | 102,600  | 28,800                                      |
| 2018          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 85,800              | 21,300                  | 102,600  | 28,800                                      |
| 2019          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 85,800              | 21,300                  | 102,600  | 28,800                                      |
| 2020          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2021          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2022          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2023          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2024          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2025          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2026          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2027          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2028          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2029          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2030          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2031          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2032          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2033          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2034          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| 2035          | 144,844                                | 95,200                    | 138,350                         | 5,800                                 | 55,750              | 2,300                                | 89,800              | 21,300                  | 102,600  | 28,800                                      |
| <b>TOTAL</b>  | <b>7,507,768</b>                       | <b>4,545,098</b>          | <b>4,782,511</b>                | <b>321,556</b>                        | <b>2,626,000</b>    | <b>127,210</b>                       | <b>4,069,043</b>    | <b>1,127,720</b>        | <b>5,909,177</b>                               | <b>1,641,322</b>                            |

**TABLE B-4 Maximum Contractual Table A Amounts**

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA       |  |  |                    | FEATHER RIVER AREA |                 |                      |                  | South Bay Area Future Contractor | GRAND TOTAL        |
|---------------|--------------------------------|--|--|--------------------|--------------------|-----------------|----------------------|------------------|----------------------------------|--------------------|
|               | San Gorgonio Pass Water Agency | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total              | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total            |                                  |                    |
|               | [30]                           | [31]   | [32]   | [33]               | [34]               | [35]            | [36]                 | [37]             | [38]                             | [39]               |
| 1962          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 0                  |
| 1963          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 0                  |
| 1964          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 0                  |
| 1965          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 0                  |
| 1966          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 0                  |
| 1967          | 0                              | 0  | 0  | 0                  | 0                  | 0               | 0                    | 0                | 0                                | 11,538             |
| 1968          | 0                              | 0  | 0  | 3,700              | 0                  | 300             | 250                  | 550              | 0                                | 191,500            |
| 1969          | 0                              | 0  | 0  | 5,000              | 0                  | 350             | 270                  | 620              | 0                                | 267,395            |
| 1970          | 0                              | 0  | 0  | 5,700              | 0                  | 400             | 300                  | 700              | 0                                | 322,600            |
| 1971          | 0                              | 0  | 0  | 6,700              | 0                  | 450             | 440                  | 890              | 0                                | 375,590            |
| 1972          | 0                              | 154,772  | 0  | 209,423            | 0                  | 500             | 470                  | 970              | 0                                | 741,759            |
| 1973          | 0                              | 354,600  | 0  | 481,100            | 0                  | 600             | 500                  | 1,100            | 0                                | 986,252            |
| 1974          | 0                              | 454,900  | 0  | 597,920            | 0                  | 700             | 530                  | 1,230            | 0                                | 1,182,200          |
| 1975          | 0                              | 555,200  | 0  | 714,950            | 0                  | 1,050           | 560                  | 1,610            | 0                                | 1,386,869          |
| 1976          | 0                              | 655,600  | 0  | 836,480            | 0                  | 1,400           | 590                  | 1,990            | 0                                | 1,508,387          |
| 1977          | 0                              | 755,900  | 0  | 954,901            | 0                  | 1,800           | 620                  | 2,420            | 0                                | 1,667,321          |
| 1978          | 0                              | 856,300  | 0  | 1,049,584          | 0                  | 1,200           | 650                  | 1,850            | 0                                | 1,818,034          |
| 1979          | 0                              | 956,600  | 0  | 1,190,573          | 0                  | 1,450           | 680                  | 2,130            | 0                                | 2,028,088          |
| 1980          | 6,800                          | 1,057,000  | 1,000  | 1,317,614          | 0                  | 1,100           | 710                  | 1,810            | 0                                | 2,214,770          |
| 1981          | 7,800                          | 1,157,300  | 2,000  | 1,432,065          | 0                  | 1,200           | 740                  | 1,940            | 0                                | 2,392,468          |
| 1982          | 8,800                          | 1,257,600  | 3,000  | 1,550,449          | 0                  | 1,200           | 770                  | 1,970            | 0                                | 2,574,545          |
| 1983          | 9,800                          | 1,358,000  | 4,000  | 1,681,257          | 0                  | 1,200           | 800                  | 2,000            | 0                                | 2,701,164          |
| 1984          | 10,800                         | 1,458,300  | 5,000  | 1,744,098          | 1,600              | 1,200           | 830                  | 3,630            | 0                                | 2,884,337          |
| 1985          | 11,800                         | 1,558,700  | 6,000  | 1,864,849          | 1,700              | 1,200           | 860                  | 3,760            | 0                                | 3,055,846          |
| 1986          | 12,900                         | 1,659,300  | 8,000  | 1,983,890          | 2,100              | 1,200           | 890                  | 4,190            | 0                                | 3,257,736          |
| 1987          | 14,000                         | 1,759,800  | 10,000                                       | 2,103,941          | 2,500              | 1,200           | 920                  | 4,620            | 0                                | 3,484,115          |
| 1988          | 15,100                         | 1,860,400  | 13,000                                       | 2,225,482          | 2,900              | 1,200           | 960                  | 5,060            | 0                                | 3,688,335          |
| 1989          | 16,200                         | 1,961,000  | 16,000                                       | 2,424,633          | 3,300              | 1,200           | 1,000                | 5,500            | 0                                | 3,958,190          |
| 1990          | 17,300                         | 2,011,500  | 20,000                                       | 2,500,600          | 3,800              | 1,200           | 1,040                | 6,040            | 0                                | 4,079,666          |
| 1991          | 17,300                         | 2,011,500  | 20,000                                       | 2,510,200          | 9,600              | 1,200           | 1,080                | 11,880           | 0                                | 4,126,567          |
| 1992          | 17,300                         | 2,011,500  | 20,000                                       | 2,510,200          | 9,600              | 1,200           | 1,120                | 11,920           | 0                                | 4,138,816          |
| 1993          | 17,300                         | 2,011,500  | 20,000                                       | 2,510,200          | 9,600              | 1,200           | 1,160                | 11,960           | 0                                | 4,146,966          |
| 1994          | 17,300                         | 2,011,500  | 20,000                                       | 2,510,200          | 9,600              | 1,200           | 1,200                | 12,000           | 0                                | 4,154,201          |
| 1995          | 17,300                         | 2,011,500  | 20,000                                       | 2,510,200          | 9,600              | 1,200           | 1,250                | 12,050           | 0                                | 4,163,066          |
| 1996          | 0                              | 2,011,500  | 20,000                                       | 2,492,900          | 9,600              | 1,200           | 1,300                | 12,100           | 0                                | 4,111,341          |
| 1997          | 0                              | 2,011,500  | 20,000                                       | 2,492,900          | 9,600              | 1,200           | 1,350                | 12,150           | 0                                | 4,084,866          |
| 1998          | 0                              | 2,011,500  | 20,000                                       | 2,517,900          | 9,600              | 1,200           | 1,400                | 12,200           | 0                                | 4,086,021          |
| 1999          | 2,000                          | 2,011,500  | 20,000                                       | 2,519,900          | 9,600              | 2,890           | 1,450                | 13,940           | 0                                | 4,119,646          |
| 2000          | 3,000                          | 2,011,500  | 20,000                                       | 2,565,900          | 9,600              | 2,890           | 1,510                | 14,000           | 0                                | 4,121,631          |
| 2001          | 4,000                          | 2,011,500  | 20,000                                       | 2,566,900          | 9,600              | 3,500           | 1,570                | 14,670           | 0                                | 4,124,136          |
| 2002          | 4,000                          | 2,011,500  | 20,000                                       | 2,569,900          | 9,600              | 3,500           | 1,630                | 14,730           | 0                                | 4,125,031          |
| 2003          | 5,000                          | 2,011,500  | 20,000                                       | 2,570,900          | 9,600              | 3,500           | 1,690                | 14,790           | 0                                | 4,126,926          |
| 2004          | 6,000                          | 2,011,500  | 20,000                                       | 2,581,800          | 9,600              | 3,500           | 0                    | 13,100           | 0                                | 4,127,061          |
| 2005          | 6,500                          | 1,911,500  | 20,000                                       | 2,582,300          | 9,600              | 1,200           | 0                    | 10,800           | 0                                | 4,125,686          |
| 2006          | 7,000                          | 1,911,500  | 20,000                                       | 2,582,800          | 9,600              | 1,200           | 324                  | 11,124           | 0                                | 4,126,885          |
| 2007          | 8,650                          | 1,911,500  | 20,000                                       | 2,584,450          | 9,600              | 1,200           | 720                  | 11,520           | 0                                | 4,129,306          |
| 2008          | 17,300                         | 1,911,500  | 20,000                                       | 2,593,100          | 9,600              | 27,500          | 2,020                | 39,120           | 0                                | 4,165,931          |
| 2009          | 17,300                         | 1,911,500  | 20,000                                       | 2,593,100          | 9,600              | 27,500          | 2,090                | 39,190           | 0                                | 4,166,376          |
| 2010          | 17,300                         | 1,911,500  | 20,000                                       | 2,623,100          | 9,600              | 1,731           | 2,160                | 13,491           | 0                                | 4,146,227          |
| 2011          | 17,300                         | 1,911,500  | 20,000                                       | 2,623,100          | 9,600              | 2,548           | 2,240                | 14,388           | 0                                | 4,147,174          |
| 2012          | 17,300                         | 1,911,500  | 20,000                                       | 2,623,100          | 9,600              | 27,500          | 2,320                | 39,420           | 0                                | 4,172,256          |
| 2013          | 17,300                         | 1,911,500  | 20,000                                       | 2,623,100          | 9,600              | 27,500          | 2,410                | 39,510           | 0                                | 4,172,396          |
| 2014          | 17,300                         | 1,911,500  | 20,000                                       | 2,626,544          | 9,600              | 27,500          | 2,500                | 39,600           | 0                                | 4,172,536          |
| 2015          | 17,300                         | 1,911,500  | 20,000                                       | 2,629,544          | 9,600              | 27,500          | 2,600                | 39,700           | 0                                | 4,172,686          |
| 2016          | 17,300                         | 1,911,500  | 20,000                                       | 2,629,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2017          | 17,300                         | 1,911,500  | 20,000                                       | 2,629,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2018          | 17,300                         | 1,911,500  | 20,000                                       | 2,629,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2019          | 17,300                         | 1,911,500  | 20,000                                       | 2,629,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2020          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2021          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2022          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2023          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2024          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2025          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2026          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2027          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2028          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2029          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2030          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2031          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2032          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2033          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2034          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| 2035          | 17,300                         | 1,911,500  | 20,000                                       | 2,633,544          | 9,600              | 27,500          | 2,700                | 39,800           | 0                                | 4,172,786          |
| <b>TOTAL</b>  | <b>748,350</b>                 | <b>109,260,272</b>                                     | <b>988,000</b>                               | <b>143,654,027</b> | <b>449,900</b>     | <b>775,559</b>  | <b>106,474</b>       | <b>1,331,933</b> | <b>0</b>                         | <b>233,688,159</b> |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(In acre-feet)

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| Calendar Year | UPPER FEATHER AREA |                                   |                | NORTH BAY AQUEDUCT |           |                |            |                |                |              |                  |        | Total |  |
|---------------|--------------------|-----------------------------------|----------------|--------------------|-----------|----------------|------------|----------------|----------------|--------------|------------------|--------|-------|--|
|               | BUTTE              | Grizzly Valley Pipeline PC FC&WCD | YUBA           | Reach 1            |           | Reach 3A       |            | Reach 3A-T     |                | Reach 3B     |                  |        |       |  |
|               |                    |                                   |                | SCWA               | NC FC&WCD | SCWA           | NC FC&WCD  | SCWA           | NC (a) FC&WCD  | SCWA         |                  |        |       |  |
|               | [1]                | [2]                               | [3]            | [4]                | [5]       | [6]            | [7]        | [8]            | [9]            | [10]         | [11]             |        |       |  |
| 1962          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1963          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1964          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1965          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1966          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1967          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 0            | 0                | 0      | 0     |  |
| 1968          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 1,214        | 0                | 1,214  |       |  |
| 1969          | 0                  | 0                                 | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 2,687        | 0                | 2,687  |       |  |
| 1970          | 0                  | 70                                | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 3,618        | 0                | 3,618  |       |  |
| 1971          | 192                | 64                                | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 2,521        | 0                | 2,521  |       |  |
| 1972          | 186                | 505                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 3,647        | 0                | 3,647  |       |  |
| 1973          | 53                 | 679                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 3,792        | 0                | 3,792  |       |  |
| 1974          | 127                | 648                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 4,870        | 0                | 4,870  |       |  |
| 1975          | 253                | 405                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 6,840        | 0                | 6,840  |       |  |
| 1976          | 527                | 382                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 7,122        | 0                | 7,122  |       |  |
| 1977          | 706                | 303                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 8,226        | 0                | 8,226  |       |  |
| 1978          | 579                | 278                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 6,034        | 0                | 6,034  |       |  |
| 1979          | 302                | 329                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 6,561        | 0                | 6,561  |       |  |
| 1980          | 267                | 295                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 6,707        | 0                | 6,707  |       |  |
| 1981          | 221                | 355                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 9,001        | 0                | 9,001  |       |  |
| 1982          | 334                | 305                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 1,213        | 0                | 1,213  |       |  |
| 1983          | 325                | 262                               | 0              | 0                  | 0         | 0              | 0          | 0              | 0              | 2,287        | 0                | 2,287  |       |  |
| 1984          | 177                | 272                               | 108            | 0                  | 0         | 0              | 0          | 0              | 0              | 2,923        | 0                | 2,923  |       |  |
| 1985          | 308                | 254                               | 62             | 0                  | 0         | 0              | 0          | 0              | 0              | 4,039        | 0                | 4,039  |       |  |
| 1986          | 313                | 317                               | 328            | 1,400              | 0         | 0              | 0          | 0              | 0              | 3,519        | 0                | 4,919  |       |  |
| 1987          | 459                | 452                               | 88             | 1,550              | 0         | 0              | 0          | 0              | 0              | 7,693        | 0                | 9,243  |       |  |
| 1988          | 385                | 523                               | 303            | 1                  | 0         | 9,725          | 0          | 0              | 0              | 5,392        | 0                | 15,118 |       |  |
| 1989          | 300                | 486                               | 403            | 10                 | 0         | 17,246         | 0          | 0              | 0              | 6,195        | 0                | 23,451 |       |  |
| 1990          | 380                | 548                               | 494            | 3,275              | 0         | 15,856         | 0          | 0              | 0              | 6,940        | 0                | 26,071 |       |  |
| 1991          | 328                | 420                               | 265            | 3,117              | 0         | 3,855          | 0          | 0              | 0              | 1,380        | 0                | 8,352  |       |  |
| 1992          | 117                | 485                               | 642            | 5,553              | 0         | 9,220          | 0          | 0              | 0              | 4,001        | 0                | 18,774 |       |  |
| 1993          | 256                | 444                               | 746            | 14,709             | 0         | 14,471         | 0          | 0              | 0              | 5,286        | 0                | 34,466 |       |  |
| 1994          | 329                | 492                               | 1,035          | 10,343             | 0         | 14,913         | 0          | 0              | 0              | 6,792        | 0                | 32,048 |       |  |
| 1995          | 203                | 308                               | 910            | 5,452              | 0         | 15,893         | 0          | 0              | 0              | 5,182        | 0                | 26,527 |       |  |
| 1996          | 257                | 360                               | 820            | 12,930             | 0         | 17,069         | 0          | 0              | 0              | 4,893        | 0                | 34,892 |       |  |
| 1997          | 185                | 231                               | 1,005          | 16,029             | 0         | 17,501         | 0          | 0              | 0              | 4,341        | 0                | 37,871 |       |  |
| 1998          | 527                | 0                                 | 1,054          | 11,562             | 0         | 18,204         | 0          | 0              | 0              | 5,359        | 0                | 35,125 |       |  |
| 1999          | 286                | 0                                 | 1,096          | 15,191             | 0         | 19,562         | 0          | 0              | 0              | 5,304        | 0                | 40,057 |       |  |
| 2000          | 586                | 0                                 | 901            | 15,490             | 0         | 11,290         | 0          | 10,235         | 4,958          | 0            | 41,973           |        |       |  |
| 2001          | 513                | 0                                 | 1,065          | 14,849             | 0         | 11,377         | 0          | 8,360          | 9,345          | 0            | 43,931           |        |       |  |
| 2002          | 419                | 0                                 | 1,181          | 18,841             | 0         | 11,130         | 0          | 8,589          | 6,875          | 0            | 45,435           |        |       |  |
| 2003          | 551                | 0                                 | 1,324          | 17,260             | 0         | 9,682          | 9          | 7,009          | 7,637          | 0            | 41,597           |        |       |  |
| 2004          | 1,440              | 0                                 | 1,434          | 20,951             | 0         | 10,691         | 135        | 10,860         | 7,999          | 500          | 51,136           |        |       |  |
| 2005          | 527                | 0                                 | 1,894          | 18,290             | 0         | 10,585         | 160        | 8,444          | 7,509          | 500          | 45,488           |        |       |  |
| 2006          | 488                | 0                                 | 5,342          | 16,573             | 0         | 10,865         | 208        | 7,578          | 7,581          | 500          | 43,305           |        |       |  |
| 2007          | 956                | 0                                 | 2,327          | 19,187             | 0         | 12,301         | 180        | 15,312         | 10,777         | 500          | 58,257           |        |       |  |
| 2008          | 451                | 243                               | 1,923          | 21,436             | 15        | 11,410         | 37         | 7,974          | 13,240         | 500          | 54,612           |        |       |  |
| 2009          | 581                | 200                               | 2,114          | 15,004             | 0         | 8,651          | 27         | 6,795          | 10,877         | 500          | 41,854           |        |       |  |
| 2010          | 807                | 243                               | 2,331          | 17,598             | 0         | 8,231          | 70         | 4,487          | 12,347         | 500          | 43,233           |        |       |  |
| 2011          | 1,092              | 98                                | 2,297          | 15,202             | 0         | 7,761          | 39         | 5,032          | 11,275         | 0            | 39,309           |        |       |  |
| 2012          | 1,374              | 79                                | 2,695          | 16,508             | 0         | 8,298          | 44         | 4,544          | 9,860          | 0            | 39,254           |        |       |  |
| 2013          | 908                | 366                               | 4,850          | 16,525             | 0         | 10,082         | 0          | 9,322          | 12,478         | 0            | 48,407           |        |       |  |
| 2014          | 1,375              | 125                               | 5,003          | 9,601              | 0         | 4,456          | 0          | 13,017         | 14,685         | 300          | 42,059           |        |       |  |
| 2015          | 1,661              | 1,560                             | 5,760          | 16,154             | 0         | 12,500         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2016          | 1,661              | 1,619                             | 5,760          | 16,100             | 0         | 12,555         | 0          | 0              | 17,415         | 0            | 46,070           |        |       |  |
| 2017          | 1,661              | 1,619                             | 5,760          | 16,100             | 0         | 12,555         | 0          | 0              | 17,415         | 0            | 46,070           |        |       |  |
| 2018          | 1,661              | 1,619                             | 5,760          | 16,100             | 0         | 12,555         | 0          | 0              | 17,415         | 0            | 46,070           |        |       |  |
| 2019          | 1,786              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2020          | 1,846              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2021          | 1,911              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2022          | 1,982              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2023          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2024          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2025          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2026          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2027          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2028          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2029          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2030          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2031          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2032          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2033          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2034          | 2,061              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| 2035          | 2,143              | 1,619                             | 5,760          | 15,993             | 0         | 12,661         | 0          | 0              | 17,415         | 0            | 46,069           |        |       |  |
| <b>TOTAL</b>  | <b>61,974</b>      | <b>45,766</b>                     | <b>167,000</b> | <b>690,772</b>     | <b>15</b> | <b>585,727</b> | <b>909</b> | <b>127,558</b> | <b>668,737</b> | <b>3,800</b> | <b>2,077,518</b> |        |       |  |

(a) For the period 1968 through 1987, deliveries are non-Project water pumped through an interim facility.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 2 of 17

| Calendar<br>Year | SOUTH BAY AQUEDUCT (b) |               |                |                |                |               |                |                |                |                  | Total            |         |         |
|------------------|------------------------|---------------|----------------|----------------|----------------|---------------|----------------|----------------|----------------|------------------|------------------|---------|---------|
|                  | Reach 1                |               | Reach 2        |                | Reach 4        |               | Reach 5        |                | Reach 6        |                  | Reach 7          | Reach 8 | Reach 9 |
|                  | AC<br>FC&WCD           | ACWD          | AC<br>FC&WCD   | AC<br>FC&WCD   | AC<br>FC&WCD   | ACWD          | AC<br>FC&WCD   | ACWD           | ACWD           | ACWD             | SCVWD            |         |         |
|                  | [12]                   | [13]          | [14]           | [15]           | [16]           | [17]          | [18]           | [19]           | [20]           | [21]             | [22]             |         |         |
| 1962             | 141                    | 8,412         | 353            | 0              | 0              | 0             | 0              | 0              | 0              | 0                | 0                | 8,906   |         |
| 1963             | 814                    | 10,914        | 917            | 0              | 0              | 0             | 0              | 0              | 0              | 0                | 0                | 12,645  |         |
| 1964             | 248                    | 19,238        | 1,425          | 0              | 0              | 0             | 0              | 0              | 0              | 0                | 0                | 20,911  |         |
| 1965             | 637                    | 15,280        | 1,830          | 138            | 0              | 0             | 0              | 0              | 1,127          | 0                | 15,014           | 34,026  |         |
| 1966             | 2,475                  | 0             | 2,537          | 499            | 0              | 0             | 0              | 0              | 14,864         | 0                | 34,538           | 54,913  |         |
| 1967             | 1,527                  | 0             | 2,391          | 862            | 0              | 0             | 0              | 0              | 12,882         | 0                | 39,101           | 56,763  |         |
| 1968             | 1,608                  | 0             | 3,799          | 721            | 5              | 0             | 0              | 0              | 24,817         | 0                | 70,105           | 101,055 |         |
| 1969             | 1,165                  | 0             | 3,459          | 1,851          | 160            | 0             | 0              | 0              | 813            | 0                | 62,264           | 69,712  |         |
| 1970             | 1,345                  | 0             | 4,558          | 3,182          | 164            | 0             | 0              | 0              | 0              | 0                | 80,311           | 89,560  |         |
| 1971             | 546                    | 0             | 1,908          | 2,403          | 160            | 0             | 0              | 0              | 5,961          | 0                | 87,606           | 98,584  |         |
| 1972             | 1,066                  | 0             | 4,605          | 2,041          | 2,777          | 1,489         | 0              | 0              | 26,182         | 0                | 100,266          | 138,426 |         |
| 1973             | 430                    | 0             | 1,123          | 1,193          | 229            | 0             | 0              | 0              | 2,521          | 0                | 88,582           | 94,078  |         |
| 1974             | 177                    | 0             | 0              | 975            | 162            | 0             | 0              | 0              | 0              | 4                | 88,000           | 89,318  |         |
| 1975             | 137                    | 0             | 1,783          | 1,864          | 120            | 0             | 714            | 393            | 593            | 88,000           | 93,604           |         |         |
| 1976             | 265                    | 0             | 7,204          | 3,384          | 817            | 0             | 5,461          | 13,774         | 7,526          | 88,000           | 126,431          |         |         |
| 1977             | 210                    | 0             | 4,491          | 2,213          | 524            | 0             | 5,206          | 11,284         | 7,556          | 76,220           | 107,704          |         |         |
| 1978             | 422                    | 0             | 2,426          | 3,754          | 2,034          | 0             | 2,348          | 854            | 5,009          | 95,727           | 112,574          |         |         |
| 1979             | 197                    | 0             | 4,283          | 5,567          | 3,937          | 0             | 5,341          | 3,430          | 7,444          | 91,991           | 122,190          |         |         |
| 1980             | 77                     | 0             | 3,883          | 6,686          | 0              | 1,508         | 6,144          | 2,824          | 6,702          | 88,000           | 115,824          |         |         |
| 1981             | 1,250                  | 0             | 4,648          | 5,273          | 1,157          | 5,752         | 7,262          | 7,595          | 8,570          | 88,000           | 129,507          |         |         |
| 1982             | 473                    | 0             | 3,043          | 4,406          | 630            | 0             | 4,571          | 1,776          | 4,540          | 88,000           | 107,439          |         |         |
| 1983             | 179                    | 0             | 2,712          | 1,714          | 50             | 0             | 111            | 0              | 3,157          | 86,733           | 94,656           |         |         |
| 1984             | 165                    | 0             | 4,219          | 2,219          | 55             | 0             | 126            | 0              | 3,338          | 88,000           | 98,122           |         |         |
| 1985             | 213                    | 0             | 5,199          | 2,060          | 63             | 0             | 7,537          | 11,203         | 7,813          | 88,000           | 122,088          |         |         |
| 1986             | 200                    | 0             | 6,052          | 2,062          | 212            | 0             | 2,083          | 5,311          | 7,068          | 88,000           | 110,988          |         |         |
| 1987             | 218                    | 0             | 7,538          | 2,372          | 285            | 0             | 12,993         | 15,488         | 9,902          | 88,000           | 136,796          |         |         |
| 1988             | 222                    | 0             | 8,302          | 4,681          | 189            | 0             | 12,436         | 24,259         | 9,205          | 87,961           | 147,255          |         |         |
| 1989             | 222                    | 0             | 8,051          | 6,562          | 418            | 0             | 10,974         | 17,340         | 8,702          | 90,000           | 142,269          |         |         |
| 1990             | 256                    | 0             | 8,160          | 8,347          | 593            | 0             | 15,678         | 22,149         | 9,554          | 91,800           | 156,537          |         |         |
| 1991             | 162                    | 0             | 3,676          | 3,269          | 359            | 0             | 1,945          | 9,155          | 3,493          | 28,200           | 50,259           |         |         |
| 1992             | 217                    | 0             | 5,177          | 2,188          | 154            | 0             | 6,933          | 12,621         | 6,532          | 42,839           | 76,661           |         |         |
| 1993             | 190                    | 0             | 5,843          | 8,430          | 5,964          | 1,650         | 13,208         | 1,792          | 6,829          | 62,065           | 105,971          |         |         |
| 1994             | 132                    | 0             | 4,482          | 5,427          | 822            | 0             | 9,679          | 3,379          | 19,532         | 57,115           | 100,568          |         |         |
| 1995             | 278                    | 0             | 6,236          | 7,195          | 955            | 0             | 15,427         | 21             | 17,772         | 28,756           | 76,640           |         |         |
| 1996             | 277                    | 0             | 6,151          | 5,119          | 388            | 0             | 6,968          | 1,871          | 11,591         | 44,850           | 77,215           |         |         |
| 1997             | 138                    | 0             | 6,647          | 6,501          | 1,582          | 1,323         | 12,654         | 1,876          | 10,864         | 60,601           | 102,186          |         |         |
| 1998             | 106                    | 0             | 3,748          | 2,493          | 1,277          | 0             | 8,347          | 3,817          | 11,478         | 39,610           | 70,876           |         |         |
| 1999             | 148                    | 0             | 5,048          | 8,227          | 1,444          | 0             | 13,133         | 5,326          | 16,226         | 52,945           | 102,497          |         |         |
| 2000             | 110                    | 0             | 7,464          | 9,761          | 946            | 0             | 16,396         | 4,498          | 18,100         | 78,258           | 135,533          |         |         |
| 2001             | 105                    | 0             | 7,822          | 4,879          | 3,010          | 0             | 13,593         | 0              | 18,004         | 47,922           | 95,335           |         |         |
| 2002             | 93                     | 0             | 7,758          | 11,619         | 2,446          | 0             | 17,058         | 5,112          | 20,616         | 58,875           | 123,577          |         |         |
| 2003             | 108                    | 0             | 7,916          | 11,348         | 2,887          | 0             | 16,684         | 5,037          | 12,753         | 75,981           | 132,714          |         |         |
| 2004             | 72                     | 0             | 11,754         | 9,737          | 3,763          | 0             | 21,260         | 4,968          | 14,916         | 59,458           | 125,928          |         |         |
| 2005             | 1,430                  | 0             | 11,520         | 10,100         | 1,826          | 0             | 16,597         | 4,139          | 10,160         | 52,364           | 108,136          |         |         |
| 2006             | 830                    | 0             | 11,546         | 4,097          | 2,123          | 0             | 19,870         | 2,708          | 12,924         | 64,174           | 118,272          |         |         |
| 2007             | 179                    | 0             | 10,066         | 2,563          | 3,107          | 0             | 23,205         | 8,255          | 15,107         | 71,690           | 134,172          |         |         |
| 2008             | 238                    | 0             | 11,424         | 2,206          | 1,899          | 0             | 25,363         | 4,421          | 18,481         | 52,530           | 116,562          |         |         |
| 2009             | 211                    | 0             | 7,054          | 5,437          | 1,987          | 0             | 16,398         | 2,551          | 16,945         | 66,364           | 116,947          |         |         |
| 2010             | 160                    | 0             | 7,788          | 7,528          | 1,824          | 0             | 17,043         | 330            | 15,241         | 45,888           | 95,802           |         |         |
| 2011             | 1,541                  | 0             | 6,282          | 6,887          | 2,173          | 0             | 20,098         | 7              | 15,203         | 60,761           | 112,952          |         |         |
| 2012             | 262                    | 0             | 7,598          | 9,987          | 2,972          | 0             | 14,112         | 0              | 13,331         | 63,794           | 112,056          |         |         |
| 2013             | 237                    | 0             | 11,253         | 9,998          | 3,171          | 0             | 20,197         | 31             | 23,609         | 78,623           | 147,119          |         |         |
| 2014             | 243                    | 0             | 8,404          | 6,400          | 2,558          | 0             | 16,137         | 9,239          | 7,647          | 54,405           | 105,033          |         |         |
| 2015             | 245                    | 0             | 3,750          | 10,550         | 1,855          | 0             | 26,971         | 4,000          | 21,200         | 68,431           | 137,002          |         |         |
| 2016             | 245                    | 0             | 3,900          | 11,050         | 1,855          | 0             | 31,321         | 4,000          | 19,398         | 68,431           | 140,200          |         |         |
| 2017             | 245                    | 0             | 3,900          | 12,700         | 1,855          | 0             | 29,671         | 4,000          | 19,398         | 68,431           | 140,200          |         |         |
| 2018             | 245                    | 0             | 3,900          | 13,650         | 1,855          | 0             | 28,721         | 4,000          | 19,398         | 68,431           | 140,200          |         |         |
| 2019             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2020             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2021             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2022             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2023             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2024             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2025             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2026             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2027             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2028             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2029             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2030             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2031             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2032             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2033             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2034             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| 2035             | 460                    | 0             | 15,400         | 8,500          | 3,770          | 0             | 20,241         | 5,729          | 19,471         | 60,000           | 133,571          |         |         |
| <b>TOTAL</b>     | <b>33,152</b>          | <b>53,844</b> | <b>570,806</b> | <b>430,875</b> | <b>135,888</b> | <b>11,722</b> | <b>922,071</b> | <b>431,394</b> | <b>854,438</b> | <b>4,720,011</b> | <b>8,164,201</b> |         |         |

(b) For the period June 1962 through November 1967, deliveries were supplied by non-Project water.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(In acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT        |              |              |          |         |       |                   |          |        |       |       |
|------------------|----------------------------|--------------|--------------|----------|---------|-------|-------------------|----------|--------|-------|-------|
|                  | NORTH SAN JOAQUIN DIVISION |              |              |          |         |       | SAN LUIS DIVISION |          |        |       |       |
|                  | Reach 1                    | Reach 2A     |              |          | Reach 3 |       |                   | Reach 3A |        |       |       |
|                  | KCWA<br>(AG)               | AC<br>FC&WCD | KCWA<br>(AG) | OFWD (c) | SCVWD   | TLBWS | DRWD              | MWDSC    | SCVWD  | AVEK  | CLWA  |
|                  | [23]                       | [24]         | [25]         | [26]     | [27]    | [28]  | [29]              | [30]     | [31]   | [32]  | [33]  |
| 1962             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1963             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1964             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1965             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1966             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1967             | 0                          | 0            | 0            | 0        | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1968             | 0                          | 0            | 0            | 3,084    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1969             | 0                          | 0            | 0            | 3,016    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1970             | 0                          | 0            | 0            | 5,911    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1971             | 0                          | 0            | 0            | 7,212    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1972             | 0                          | 0            | 0            | 8,166    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1973             | 0                          | 0            | 0            | 3,214    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1974             | 0                          | 0            | 0            | 3,471    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1975             | 0                          | 0            | 0            | 3,576    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1976             | 0                          | 0            | 0            | 4,112    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1977             | 0                          | 0            | 0            | 1,472    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1978             | 0                          | 0            | 0            | 3,906    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1979             | 0                          | 0            | 0            | 6,149    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1980             | 0                          | 0            | 0            | 5,700    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1981             | 0                          | 0            | 0            | 4,300    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1982             | 0                          | 0            | 0            | 3,838    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1983             | 0                          | 0            | 0            | 3,822    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1984             | 0                          | 0            | 0            | 5,700    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1985             | 0                          | 0            | 0            | 5,433    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1986             | 0                          | 0            | 0            | 5,107    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1987             | 0                          | 0            | 0            | 5,625    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1988             | 0                          | 0            | 0            | 4,412    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1989             | 0                          | 0            | 0            | 6,091    | 0       | 300   | 602               | 0        | 0      | 0     | 0     |
| 1990             | 0                          | 0            | 0            | 2,922    | 200     | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1991             | 0                          | 0            | 0            | 141      | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1992             | 0                          | 0            | 0            | 2,239    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1993             | 0                          | 0            | 0            | 2,858    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1994             | 0                          | 0            | 0            | 3,071    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1995             | 0                          | 0            | 0            | 5,169    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1996             | 0                          | 0            | 0            | 4,904    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 1997             | 0                          | 0            | 0            | 5,238    | 0       | 0     | 0                 | 11,100   | 0      | 0     | 0     |
| 1998             | 0                          | 0            | 0            | 4,401    | 0       | 0     | 0                 | (11,100) | 0      | 0     | 0     |
| 1999             | 0                          | 0            | 0            | 4,871    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2000             | 0                          | 0            | 0            | 4,508    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2001             | 0                          | 0            | 638          | 3,592    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2002             | 0                          | 0            | 773          | 4,885    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2003             | 0                          | 7            | 917          | 4,266    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2004             | 0                          | 38           | 786          | 4,629    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2005             | 0                          | 299          | 1,046        | 4,194    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2006             | 0                          | 321          | 1,103        | 4,242    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2007             | 0                          | 320          | 1,031        | 3,567    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2008             | 8,885                      | 56           | 1,744        | 1,985    | 0       | 0     | 0                 | 0        | 0      | 5,873 | 0     |
| 2009             | 0                          | 0            | 1,169        | 1,993    | 0       | 0     | 0                 | 0        | 0      | 0     | 3,300 |
| 2010             | 0                          | 0            | 1,124        | 2,906    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2011             | 0                          | 0            | 1,112        | 2,715    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2012             | 0                          | 0            | 1,258        | 3,208    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2013             | 0                          | 0            | 1,156        | 2,820    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2014             | 0                          | 0            | 431          | 1,566    | 0       | 0     | 0                 | 0        | 14,532 | 0     | 0     |
| 2015             | 0                          | 0            | 1,300        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2016             | 0                          | 0            | 1,300        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2017             | 0                          | 0            | 1,300        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2018             | 0                          | 0            | 1,300        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2019             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2020             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2021             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2022             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2023             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2024             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2025             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2026             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2027             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2028             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2029             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2030             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2031             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2032             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2033             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2034             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| 2035             | 0                          | 0            | 1,171        | 3,420    | 0       | 0     | 0                 | 0        | 0      | 0     | 0     |
| <b>TOTAL</b>     | 8,885                      | 1,041        | 39,395       | 262,047  | 200     | 300   | 602               | 0        | 14,532 | 5,873 | 3,300 |

(c) Includes 425 AF of 1988 advance allocation and 141 AF of 1992 advance allocation.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued) |        |           |         |        |       |         |        |        |        |         |       |       |
|------------------|---------------------------------|--------|-----------|---------|--------|-------|---------|--------|--------|--------|---------|-------|-------|
|                  | SAN LUIS DIVISION (continued)   |        |           |         |        |       |         |        |        |        |         |       |       |
|                  | Reach 3A                        |        |           |         |        |       | Reach 4 |        |        |        | Reach 5 |       |       |
|                  | DRWD                            | KCWA   |           | MWDSC   | SCVWD  | TLWSD | CLWA    | DRWD   | KCWA   |        | TLBWSD  | CLWA  |       |
|                  |                                 | [34]   | [35]      | [36]    | [37]   | [38]  | [39]    | [40]   | [41]   | [42]   | [43]    | [44]  | [45]  |
| 1962             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1963             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1964             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1965             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1966             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1967             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1968             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1969             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1970             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1971             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1972             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1973             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1974             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1975             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1976             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1977             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1978             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1979             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1980             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1981             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1982             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1983             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1984             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1985             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1986             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1987             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1988             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1989             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 1,898  | 0      | 12,647  | 0     | 0     |
| 1990             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 1,500 | 0     |
| 1991             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1992             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1993             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 5,095 |
| 1994             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1995             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 14,446 | 0      | 3,500   | 0     | 0     |
| 1996             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 1,125  | 4,162   | 0     | 0     |
| 1997             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1998             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 1999             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 1,300 | 0     |
| 2000             | 0                               | 3,320  | 68,960    | 0       | 0      | 0     | 0       | 0      | 0      | 1,517  | 878     | 0     | 0     |
| 2001             | 0                               | 0      | 140,242   | 0       | 30,000 | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2002             | 0                               | 6,000  | 62,024    | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2003             | 0                               | 0      | 151,044   | 29,596  | 0      | 0     | 0       | 0      | 0      | 0      | 1,351   | 0     | 0     |
| 2004             | 0                               | 0      | 44,877    | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2005             | 0                               | 0      | 109,712   | 50,000  | 8,804  | 277   | 0       | 0      | 0      | 0      | 7,000   | 0     | 0     |
| 2006             | 0                               | 0      | 19,575    | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2007             | 0                               | 71,567 | 116,272   | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2008             | 0                               | 0      | 94,562    | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 10,721  | 0     | 0     |
| 2009             | 0                               | 0      | 158,590   | 52,933  | 9,999  | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2010             | 0                               | 0      | 35,896    | 120,274 | 9,993  | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2011             | 0                               | 0      | 0         | 78,324  | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2012             | 6,068                           | 0      | 23,401    | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2013             | 0                               | 0      | 64,524    | 0       | 6,000  | 0     | 6,000   | 0      | 0      | 0      | 0       | 0     | 0     |
| 2014             | 6,350                           | 0      | 161,258   | 0       | 8,546  | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2015             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2016             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2017             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2018             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2019             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2020             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2021             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2022             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2023             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2024             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2025             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2026             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2027             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2028             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2029             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2030             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2031             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2032             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2033             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2034             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| 2035             | 0                               | 0      | 0         | 0       | 0      | 0     | 0       | 0      | 0      | 0      | 0       | 0     | 0     |
| TOTAL            | 12,418                          | 80,887 | 1,250,937 | 331,127 | 73,342 | 277   | 6,000   | 16,344 | 2,642  | 40,259 | 2,800   | 5,095 |       |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(In acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued) |       |               |         |        |       |                            |        |        |         |        |        |
|------------------|---------------------------------|-------|---------------|---------|--------|-------|----------------------------|--------|--------|---------|--------|--------|
|                  | SAN LUIS DIVISION (continued)   |       |               |         |        |       | SOUTH SAN JOAQUIN DIVISION |        |        |         |        |        |
|                  | Reach 5                         |       |               | Reach 6 |        |       | KCWA                       |        | CK     | MWDS    |        |        |
|                  | DRWD                            | EWSID | KCWA<br>(M&I) | (AG)    | MWDSC  | OFWD  | TLBWS                      | EWSID  | (M&I)  | (AG)    | CK     |        |
|                  | [46]                            | [47]  | [48]          | [49]    | [50]   | [51]  | [52]                       | [53]   | [54]   | [55]    | [56]   | [57]   |
| 1962             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1963             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1964             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1965             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1966             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1967             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1968             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1969             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1970             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1971             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1972             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1973             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1974             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1975             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1976             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1977             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1978             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1979             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1980             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1981             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1982             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1983             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1984             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1985             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1986             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1987             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1988             | 0                               | 0     | 0             | 0       | 0      | 0     | 1,550                      | 0      | 0      | 0       | 0      | 0      |
| 1989             | 0                               | 0     | 0             | 18,831  | 0      | 0     | 0                          | 0      | 0      | 8,260   | 0      | 0      |
| 1990             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1991             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1992             | 10,823                          | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1993             | 27,200                          | 0     | 0             | 28,200  | 0      | 2,000 | 1,624                      | 0      | 0      | 31,200  | 0      | 0      |
| 1994             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 0      | 0      |
| 1995             | 0                               | 0     | 0             | 21,776  | 0      | 0     | 0                          | 0      | 0      | 3,932   | 0      | 0      |
| 1996             | 0                               | 0     | 1,125         | 81,507  | 0      | 0     | 4,000                      | 0      | 0      | 0       | 0      | 0      |
| 1997             | 0                               | 0     | 9,080         | 154,940 | 0      | 0     | 3,500                      | 0      | 0      | 0       | 0      | 0      |
| 1998             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 20,400 | 33,340 | 0       | 0      | 0      |
| 1999             | 0                               | 0     | 0             | 0       | 21,500 | 0     | 8,000                      | 0      | 0      | 33,776  | 0      | 11,000 |
| 2000             | 0                               | 0     | 8,130         | 57,647  | 0      | 0     | 0                          | 0      | 1,457  | 35,847  | 0      | 0      |
| 2001             | 0                               | 0     | 0             | 0       | 0      | 0     | 2,457                      | 0      | 0      | 0       | 0      | 0      |
| 2002             | 0                               | 0     | 0             | 0       | 0      | 0     | 3,000                      | 0      | 0      | 0       | 0      | 0      |
| 2003             | 0                               | 0     | 0             | 0       | 0      | 0     | 3,900                      | 0      | 0      | 0       | 0      | 0      |
| 2004             | 0                               | 0     | 0             | 0       | 0      | 0     | 3,850                      | 0      | 0      | 0       | 3,250  | 0      |
| 2005             | 0                               | 0     | 0             | 0       | 0      | 0     | 1,000                      | 0      | 0      | 0       | 6,954  | 0      |
| 2006             | 0                               | 0     | 0             | 0       | 0      | 0     | 3,000                      | 0      | 0      | 0       | 2,659  | 0      |
| 2007             | 0                               | 0     | 0             | 0       | 0      | 0     | 3,600                      | 0      | 0      | 0       | 3,119  | 0      |
| 2008             | 0                               | 0     | 0             | 0       | 0      | 0     | 1,355                      | 0      | 0      | 0       | 2,159  | 0      |
| 2009             | 0                               | 870   | 0             | 0       | 0      | 0     | 1,490                      | 0      | 0      | 0       | 1,779  | 0      |
| 2010             | 0                               | 431   | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 2,477  | 0      |
| 2011             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 400    | 0      | 0       | 2,964  | 0      |
| 2012             | 0                               | 449   | 0             | 0       | 0      | 0     | 2,800                      | 514    | 0      | 0       | 2,706  | 0      |
| 2013             | 0                               | 692   | 0             | 8,393   | 0      | 0     | 5,350                      | 280    | 0      | 0       | 2,666  | 0      |
| 2014             | 0                               | 303   | 0             | 0       | 0      | 0     | 0                          | 38     | 0      | 0       | 712    | 0      |
| 2015             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2016             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2017             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2018             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2019             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2020             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2021             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2022             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2023             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2024             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2025             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2026             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2027             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2028             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2029             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2030             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2031             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2032             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2033             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2034             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| 2035             | 0                               | 0     | 0             | 0       | 0      | 0     | 0                          | 0      | 0      | 0       | 3,120  | 0      |
| TOTAL            | 38,023                          | 2,745 | 18,335        | 371,294 | 21,500 | 2,000 | 50,476                     | 1,232  | 21,857 | 146,355 | 96,965 | 11,000 |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 6 of 17

| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)        |         |       |        |         |        |        |          |       |         |       |        |
|------------------|--|---------|-------|--------|---------|--------|--------|----------|-------|---------|-------|--------|
|                  | SOUTH SAN JOAQUIN DIVISION (continued) |         |       |        |         |        |        |          |       |         |       |        |
|                  | Reach 6                                | Reach 7 |       |        |         |        |        | Reach 8C |       |         |       |        |
|                  |  | KCWA    |       | KCWA   |         | CK     | MWDSC  | TLBWS    | DRWD  | EWSID   | KCWA  |        |
|                  | TLBWS                                  | CLWA    | DRWD  | (M&I)  | (AG)    |        |        |          |       |         | (M&I) | (AG)   |
|                  | [58]                                   | [59]    | [60]  | [61]   | [62]    | [63]   | [64]   | [65]     | [66]  | [67]    | [68]  | [69]   |
| 1962             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1963             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1964             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1965             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1966             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1967             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1968             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,978   | 0     | 0      |
| 1969             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 56      | 0     | 0      |
| 1970             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,942   | 0     | 0      |
| 1971             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 5,990   | 0     | 0      |
| 1972             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 5,795   | 0     | 0      |
| 1973             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,000   | 0     | 0      |
| 1974             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,000   | 0     | 0      |
| 1975             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,000   | 0     | 0      |
| 1976             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,000   | 0     | 0      |
| 1977             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 738     | 0     | 0      |
| 1978             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 454     | 0     | 0      |
| 1979             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,739   | 0     | 0      |
| 1980             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 894     | 0     | 0      |
| 1981             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 5,859   | 0     | 0      |
| 1982             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 361     | 0     | 0      |
| 1983             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1984             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 0     | 0      |
| 1985             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 5,197   | 0     | 0      |
| 1986             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,170   | 0     | 0      |
| 1987             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 2,525   | 0     | 0      |
| 1988             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,475   | 0     | 0      |
| 1989             | 0                                      | 0       | 0     | 0      | 5,262   | 0      | 0      | 0        | 0     | 2,391   | 3,000 | 0      |
| 1990             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 0       | 1,279 | 0      |
| 1991             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 221     | 0     | 0      |
| 1992             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,354   | 0     | 0      |
| 1993             | 0                                      | 0       | 0     | 18,157 | 10,043  | 0      | 0      | 0        | 0     | 2,741   | 0     | 0      |
| 1994             | 0                                      | 2,100   | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,666   | 0     | 0      |
| 1995             | 0                                      | 0       | 0     | 10,875 | 20,595  | 0      | 0      | 0        | 0     | 1,631   | 989   | 10,527 |
| 1996             | 0                                      | 0       | 0     | 3,424  | 69,704  | 0      | 0      | 0        | 95    | 1,868   | 0     | 1,500  |
| 1997             | 0                                      | 0       | 0     | 27,079 | 32,463  | 0      | 0      | 0        | 0     | 0       | 0     | 1,500  |
| 1998             | 3,000                                  | 0       | 200   | 3,998  | 62,081  | 0      | 0      | 0        | 90    | 542     | 0     | 1,000  |
| 1999             | 23,000                                 | 0       | 0     | 7,923  | 19,500  | 0      | 500    | 4,470    | 86    | 3,176   | 0     | 400    |
| 2000             | 3,000                                  | 1,200   | 0     | 0      | 45,137  | 0      | 20,000 | 20,500   | 166   | 1,799   | 0     | 400    |
| 2001             | 600                                    | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 14    | 1,360   | 0     | 0      |
| 2002             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 12,067   | 0     | 1,405   | 0     | 0      |
| 2003             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 15,103   | 0     | 1,436   | 0     | 0      |
| 2004             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 3,562   | 0     | 0      |
| 2005             | 0                                      | 0       | 0     | 0      | 0       | 6,904  | 0      | 4,000    | 0     | 3,834   | 0     | 0      |
| 2006             | 0                                      | 0       | 0     | 0      | 0       | 2,500  | 0      | 6,000    | 0     | 3,282   | 0     | 0      |
| 2007             | 0                                      | 0       | 0     | 0      | 16,214  | 0      | 0      | 2,545    | 0     | 2,084   | 0     | 0      |
| 2008             | 0                                      | 0       | 400   | 0      | 1,998   | 1,330  | 0      | 1,500    | 0     | 947     | 0     | 0      |
| 2009             | 2,100                                  | 0       | 1,400 | 0      | 0       | 0      | 0      | 600      | 0     | 164     | 0     | 0      |
| 2010             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 3,850    | 0     | 2,828   | 0     | 0      |
| 2011             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 2,500    | 0     | 1,515   | 0     | 0      |
| 2012             | 500                                    | 0       | 0     | 0      | 0       | 2,000  | 0      | 0        | 0     | 1,279   | 0     | 0      |
| 2013             | 1,159                                  | 0       | 500   | 0      | 0       | 0      | 0      | 1,121    | 0     | 595     | 0     | 0      |
| 2014             | 275                                    | 0       | 0     | 0      | 0       | 0      | 0      | 321      | 0     | 126     | 0     | 0      |
| 2015             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2016             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2017             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2018             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2019             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2020             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2021             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2022             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2023             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2024             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2025             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2026             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2027             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2028             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2029             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2030             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2031             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2032             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2033             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2034             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| 2035             | 0                                      | 0       | 0     | 0      | 0       | 0      | 0      | 0        | 0     | 1,800   | 0     | 0      |
| TOTAL            | 33,634                                 | 3,300   | 2,500 | 71,456 | 282,997 | 12,734 | 20,500 | 74,577   | 3,122 | 133,667 | 989   | 15,327 |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)        |                  |                  |              |                |               |                |                  |               |   |
|------------------|--|------------------|------------------|--------------|----------------|---------------|----------------|------------------|---------------|---|
|                  | SOUTH SAN JOAQUIN DIVISION (continued) |                  |                  |              |                |               |                |                  |               |   |
|                  | Reach 8C                               |                  |                  | Reach 8D     |                |               |                | Reach 9          |               |   |
|                  | CK                                     | TLBWS            | DRWD             | (M&I)        | (AG)           | CK            | SLOC<br>FC&WCD | TLBWS            | DRWD          |   |
|                  | [70]                                   | [71]             | [72]             | [73]         | [74]           | [75]          | [76]           | [77]             | [78]          |   |
| 1962             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1963             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1964             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1965             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1966             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1967             | 0                                      | 0                | 0                | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1968             | 900                                    | 25,100           | 26,360           | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1969             | 100                                    | 7,081            | 31,375           | 0            | 0              | 0             | 0              | 0                | 0             | 0 |
| 1970             | 0                                      | 0                | 40,407           | 0            | 0              | 0             | 0              | 3,408            | 0             | 0 |
| 1971             | 3,700                                  | 80,906           | 41,053           | 0            | 0              | 0             | 0              | 41,579           | 0             | 0 |
| 1972             | 1,400                                  | 144,843          | 42,443           | 0            | 0              | 0             | 0              | 113,550          | 0             | 0 |
| 1973             | 1,500                                  | 26,317           | 22,057           | 0            | 1,500          | 0             | 0              | 24,147           | 0             | 0 |
| 1974             | 1,500                                  | 32,603           | 33,390           | 0            | 0              | 0             | 0              | 39,686           | 0             | 0 |
| 1975             | 1,600                                  | 41,536           | 40,555           | 0            | 0              | 0             | 0              | 44,722           | 0             | 0 |
| 1976             | 1,600                                  | 26,595           | 41,421           | 0            | 0              | 0             | 0              | 32,216           | 0             | 0 |
| 1977             | 1,530                                  | 12,984           | 11,153           | 0            | 0              | 0             | 0              | 5,097            | 0             | 0 |
| 1978             | 2,070                                  | 3,934            | 51,747           | 0            | 0              | 0             | 0              | 8,119            | 0             | 0 |
| 1979             | 2,000                                  | 74,758           | 38,544           | 0            | 0              | 0             | 0              | 80,363           | 0             | 0 |
| 1980             | 2,200                                  | 35,140           | 41,000           | 0            | 0              | 0             | 0              | 40,304           | 0             | 0 |
| 1981             | 2,300                                  | 50,888           | 41,000           | 0            | 0              | 0             | 0              | 32,550           | 0             | 0 |
| 1982             | 1,536                                  | 4,405            | 41,000           | 0            | 0              | 214           | 0              | 14,146           | 0             | 0 |
| 1983             | 3,550                                  | 1,001            | 42,900           | 0            | 0              | 0             | 0              | 5                | 0             | 0 |
| 1984             | 3,100                                  | 3,677            | 45,100           | 0            | 0              | 0             | 0              | 2,066            | 0             | 0 |
| 1985             | 3,400                                  | 68,638           | 46,251           | 0            | 0              | 0             | 0              | 41,153           | 0             | 0 |
| 1986             | 3,700                                  | 40,017           | 50,249           | 0            | 0              | 0             | 0              | 39,338           | 0             | 0 |
| 1987             | 4,000                                  | 30,359           | 46,288           | 0            | 0              | 0             | 0              | 62,725           | 0             | 0 |
| 1988             | 4,000                                  | 46,281           | 47,994           | 0            | 0              | 0             | 0              | 48,035           | 0             | 0 |
| 1989             | 4,000                                  | 63,703           | 52,158           | 0            | 0              | 0             | 0              | 63,947           | 0             | 0 |
| 1990             | 2,000                                  | 23,504           | 36,296           | 0            | 161            | 0             | 0              | 32,066           | 0             | 0 |
| 1991             | 0                                      | 1,697            | 927              | 0            | 0              | 0             | 0              | 483              | 0             | 0 |
| 1992             | 1,806                                  | 15,982           | 12,667           | 0            | 0              | 0             | 0              | 30,746           | 0             | 0 |
| 1993             | 4,000                                  | 57,112           | 23,221           | 0            | 0              | 0             | 0              | 65,732           | 197           | 0 |
| 1994             | 2,116                                  | 21,510           | 28,793           | 0            | 1,726          | 0             | 0              | 40,852           | 0             | 0 |
| 1995             | 4,000                                  | 40,934           | 45,240           | 2,959        | 27,270         | 0             | 0              | 57,435           | 0             | 0 |
| 1996             | 4,000                                  | 84,130           | 52,722           | 0            | 1,455          | 0             | 100            | 148,745          | 0             | 0 |
| 1997             | 0                                      | 9,467            | 57,496           | 0            | 0              | 0             | 100            | 9,402            | 4,900         | 0 |
| 1998             | 15                                     | 8,956            | 49,435           | 0            | 20,000         | 0             | 0              | 8,721            | 0             | 0 |
| 1999             | 4,000                                  | 90,334           | 58,290           | 0            | 9,000          | 0             | 0              | 162,631          | 0             | 0 |
| 2000             | 3,600                                  | 63,842           | 57,920           | 0            | 0              | 0             | 0              | 113,952          | 0             | 0 |
| 2001             | 1,560                                  | 23,300           | 40,155           | 0            | 6,089          | 0             | 0              | 58,369           | 0             | 0 |
| 2002             | 2,854                                  | 34,009           | 48,179           | 0            | 7,522          | 0             | 0              | 47,426           | 0             | 0 |
| 2003             | 3,692                                  | 25,317           | 45,732           | 0            | 8,350          | 0             | 0              | 61,521           | 0             | 0 |
| 2004             | 5,803                                  | 30,546           | 45,823           | 0            | 4,979          | 0             | 0              | 55,625           | 0             | 0 |
| 2005             | 4,057                                  | 42,450           | 58,627           | 0            | 0              | 1,891         | 0              | 92,552           | 0             | 0 |
| 2006             | 1,105                                  | 34,367           | 61,410           | 0            | 0              | 3,266         | 0              | 64,840           | 0             | 0 |
| 2007             | 657                                    | 31,305           | 39,974           | 0            | 7,740          | 1,921         | 0              | 49,633           | 0             | 0 |
| 2008             | 240                                    | 14,146           | 18,974           | 0            | 21,242         | 107           | 0              | 16,903           | 0             | 0 |
| 2009             | 1,612                                  | 13,522           | 12,037           | 0            | 19,684         | 0             | 0              | 16,794           | 5,500         | 0 |
| 2010             | 26                                     | 14,005           | 17,346           | 0            | 14,094         | 1,900         | 0              | 40,609           | 0             | 0 |
| 2011             | 2,160                                  | 23,814           | 22,427           | 0            | 65             | 1,194         | 0              | 30,827           | 292           | 0 |
| 2012             | 2,699                                  | 25,847           | 17,122           | 0            | 2,168          | 0             | 0              | 56,570           | 3,400         | 0 |
| 2013             | 1,029                                  | 16,490           | 19,605           | 0            | 4,239          | 950           | 0              | 24,241           | 1,941         | 0 |
| 2014             | 136                                    | 3,959            | 9,711            | 0            | 0              | 119           | 0              | 4,545            | 0             | 0 |
| 2015             | 912                                    | 20,993           | 30,215           | 0            | 0              | 1,368         | 0              | 31,490           | 0             | 0 |
| 2016             | 912                                    | 20,993           | 30,215           | 0            | 0              | 1,368         | 0              | 31,490           | 0             | 0 |
| 2017             | 912                                    | 20,993           | 30,215           | 0            | 0              | 1,368         | 0              | 31,490           | 0             | 0 |
| 2018             | 912                                    | 20,993           | 30,215           | 0            | 0              | 1,368         | 0              | 31,490           | 0             | 0 |
| 2019             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2020             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2021             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2022             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2023             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2024             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2025             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2026             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2027             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2028             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2029             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2030             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2031             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2032             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2033             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2034             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| 2035             | 2,280                                  | 21,341           | 26,006           | 0            | 0              | 0             | 0              | 32,012           | 0             | 0 |
| <b>TOTAL</b>     | <b>145,261</b>                         | <b>2,018,080</b> | <b>2,317,536</b> | <b>2,959</b> | <b>157,284</b> | <b>17,034</b> | <b>200</b>     | <b>2,698,540</b> | <b>16,230</b> |   |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(In acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)        |           |           |        |         |        |        |         |           |         |         |         |        |
|------------------|--|-----------|-----------|--------|---------|--------|--------|---------|-----------|---------|---------|---------|--------|
|                  | SOUTH SAN JOAQUIN DIVISION (continued) |           |           |        |         |        |        |         |           |         |         |         |        |
|                  | Reach 9                                |           | Reach 10A |        |         |        |        |         |           |         |         |         |        |
|                  | KCWA                                   |           | AC        | FC&WCD | ACWD    | CLWA   | DRWD   | KCWA    |           | MWDSC   | SBVMWD  | SCVWD   | TLBWSD |
|                  | (M&I)                                  | (AG)      | TLBWSD    |        |         |        |        | (M&I)   | (AG)      |         |         |         |        |
|                  | [79]                                   | [80]      | [81]      | [82]   | [83]    | [84]   | [85]   | [86]    | [87]      | [88]    | [89]    | [90]    | [91]   |
| 1962             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1963             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1964             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1965             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1966             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1967             | 0                                      | 0         | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1968             | 0                                      | 30,951    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 0      |
| 1969             | 0                                      | 24,489    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 0       | 0       | 0       | 2,842  |
| 1970             | 0                                      | 46,114    | 1,855     | 0      | 0       | 0      | 0      | 0       | 158       | 0       | 0       | 0       | 4,315  |
| 1971             | 0                                      | 58,356    | 0         | 0      | 0       | 0      | 0      | 0       | 9,973     | 0       | 0       | 0       | 0      |
| 1972             | 0                                      | 75,464    | 0         | 0      | 0       | 0      | 0      | 0       | 5,876     | 0       | 0       | 0       | 0      |
| 1973             | 0                                      | 54,583    | 0         | 0      | 0       | 0      | 0      | 0       | 22,948    | 0       | 0       | 0       | 0      |
| 1974             | 0                                      | 63,814    | 0         | 0      | 0       | 0      | 0      | 10,019  | 22,719    | 0       | 0       | 0       | 0      |
| 1975             | 0                                      | 50,021    | 0         | 0      | 0       | 0      | 0      | 0       | 2,791     | 72,121  | 0       | 0       | 0      |
| 1976             | 0                                      | 53,465    | 0         | 0      | 0       | 0      | 0      | 74      | 50,444    | 0       | 0       | 0       | 0      |
| 1977             | 0                                      | 24,668    | 0         | 0      | 0       | 0      | 0      | 201     | 34,451    | 0       | 0       | 0       | 0      |
| 1978             | 0                                      | 72,231    | 0         | 0      | 0       | 0      | 0      | 0       | 161,889   | 0       | 0       | 0       | 0      |
| 1979             | 0                                      | 74,524    | 0         | 0      | 0       | 0      | 0      | 285     | 153,245   | 0       | 0       | 0       | 0      |
| 1980             | 0                                      | 79,946    | 0         | 0      | 0       | 0      | 0      | 0       | 3,780     | 131,836 | 0       | 0       | 0      |
| 1981             | 0                                      | 76,508    | 0         | 0      | 0       | 0      | 0      | 0       | 341       | 133,500 | 0       | 0       | 0      |
| 1982             | 0                                      | 76,877    | 0         | 0      | 0       | 0      | 0      | 0       | 4,700     | 164,832 | 0       | 0       | 0      |
| 1983             | 2,217                                  | 84,573    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 146,493 | 0       | 0       | 0      |
| 1984             | 4,100                                  | 85,732    | 0         | 0      | 0       | 0      | 0      | 0       | 6,910     | 150,302 | 0       | 0       | 0      |
| 1985             | 0                                      | 67,696    | 0         | 0      | 0       | 0      | 0      | 0       | 6,495     | 153,473 | 0       | 0       | 0      |
| 1986             | 0                                      | 79,943    | 0         | 0      | 0       | 0      | 0      | 0       | 5,065     | 198,099 | 0       | 0       | 0      |
| 1987             | 0                                      | 97,732    | 0         | 0      | 0       | 0      | 0      | 0       | 900       | 226,521 | 0       | 0       | 0      |
| 1988             | 1,100                                  | 83,858    | 0         | 0      | 0       | 0      | 0      | 0       | 9,529     | 212,495 | 0       | 0       | 0      |
| 1989             | 0                                      | 91,134    | 0         | 0      | 0       | 0      | 0      | 0       | 21,038    | 251,979 | 0       | 0       | 0      |
| 1990             | 0                                      | 83,108    | 0         | 0      | 0       | 0      | 0      | 0       | 25,189    | 47,472  | 0       | 0       | 0      |
| 1991             | 13,683                                 | 601       | 0         | 0      | 0       | 0      | 0      | 0       | 1,142     | 6,820   | 0       | 0       | 0      |
| 1992             | 28                                     | 40,183    | 0         | 0      | 0       | 0      | 0      | 0       | 3,685     | 89,390  | 0       | 0       | 0      |
| 1993             | 5,945                                  | 53,597    | 0         | 0      | 0       | 0      | 0      | 0       | 775       | 233,862 | 44,496  | 0       | 0      |
| 1994             | 0                                      | 44,994    | 0         | 0      | 0       | 0      | 0      | 0       | 5,227     | 126,792 | 0       | 0       | 0      |
| 1995             | 0                                      | 64,076    | 0         | 0      | 0       | 0      | 0      | 0       | 366       | 229,448 | 50,000  | 0       | 0      |
| 1996             | 2,236                                  | 89,291    | 0         | 0      | 6,200   | 0      | 0      | 0       | 6,666     | 199,854 | 95,000  | 0       | 45,000 |
| 1997             | 0                                      | 72,013    | 0         | 0      | 10,000  | 0      | 900    | 0       | 3,577     | 157,385 | 125,000 | 0       | 35,000 |
| 1998             | 0                                      | 57,530    | 0         | 1,970  | 3,780   | 0      | 0      | 0       | 2,603     | 163,587 | 39,500  | 0       | 23,800 |
| 1999             | 0                                      | 72,734    | 0         | 22,910 | 16,100  | 0      | 0      | 0       | 1,657     | 190,787 | 75,850  | 0       | 30,000 |
| 2000             | 0                                      | 73,562    | 0         | 23,940 | 13,380  | 0      | 0      | 0       | 7,672     | 283,208 | 0       | 0       | 23,730 |
| 2001             | 0                                      | 54,198    | 0         | 5,000  | 0       | 0      | 0      | 0       | 160       | 98,175  | 0       | 0       | 0      |
| 2002             | 0                                      | 60,957    | 0         | 14,287 | 2,083   | 24,000 | 0      | 0       | 145       | 171,498 | 0       | 0       | 3,311  |
| 2003             | 0                                      | 54,724    | 0         | 6,500  | 18,800  | 0      | 0      | 0       | 217       | 174,674 | 70,940  | 0       | 33,000 |
| 2004             | 0                                      | 54,330    | 0         | 5,740  | 8,000   | 32,522 | 0      | 0       | 65,751    | 117,286 | 0       | 0       | 0      |
| 2005             | 0                                      | 53,206    | 0         | 0      | 28,422  | 0      | 0      | 0       | 146       | 232,519 | 31,210  | 0       | 55,448 |
| 2006             | 0                                      | 56,909    | 0         | 5,740  | 27,447  | 0      | 5,000  | 0       | 0         | 237,623 | 0       | 0       | 64,036 |
| 2007             | 0                                      | 66,018    | 0         | 717    | 1,029   | 0      | 3,000  | 0       | 0         | 203,794 | 0       | 0       | 3,692  |
| 2008             | 0                                      | 63,315    | 0         | 0      | 0       | 0      | 2,800  | 1,702   | 0         | 103,176 | 0       | 0       | 4,306  |
| 2009             | 0                                      | 64,007    | 2,330     | 0      | 0       | 0      | 2,000  | 690     | 0         | 95,798  | 0       | 0       | 0      |
| 2010             | 0                                      | 76,357    | 0         | 3,000  | 7,000   | 0      | 2,000  | 14      | 102,773   | 74,000  | 0       | 51,990  | 800    |
| 2011             | 0                                      | 78,177    | 2,000     | 3,414  | 16,020  | 0      | 2,908  | 26      | 137,476   | 149,012 | 0       | 65,770  | 500    |
| 2012             | 0                                      | 69,395    | 2,000     | 0      | 7,500   | 0      | 1,660  | 29      | 201,876   | 45,000  | 2,868   | 0       | 0      |
| 2013             | 0                                      | 82,005    | 0         | 0      | 0       | 0      | 2,500  | 2,057   | 116,190   | 0       | 0       | 0       | 0      |
| 2014             | 0                                      | 49,654    | 0         | 0      | 0       | 0      | 0      | 0       | 14,564    | 0       | 0       | 0       | 0      |
| 2015             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 133,583   | 0       | 0       | 0       | 0      |
| 2016             | 0                                      | 57,366    | 0         | 0      | 1,802   | 0      | 0      | 0       | 0         | 133,583 | 0       | 0       | 0      |
| 2017             | 0                                      | 57,366    | 0         | 0      | 1,802   | 0      | 0      | 0       | 0         | 133,583 | 0       | 0       | 0      |
| 2018             | 0                                      | 57,366    | 0         | 0      | 1,802   | 0      | 0      | 0       | 0         | 133,583 | 0       | 0       | 0      |
| 2019             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2020             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2021             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2022             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2023             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2024             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2025             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2026             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2027             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2028             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2029             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2030             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2031             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2032             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2033             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2034             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| 2035             | 0                                      | 57,366    | 0         | 0      | 0       | 0      | 0      | 0       | 0         | 141,941 | 0       | 0       | 0      |
| TOTAL            | 29,309                                 | 4,192,306 | 8,185     | 93,218 | 171,167 | 56,522 | 22,768 | 201,624 | 8,986,710 | 800,008 | 2,868   | 439,083 | 8,457  |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(In acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)        |               |                |                  |              |                |               |               |              |                |               |                  |                  |
|------------------|--|---------------|----------------|------------------|--------------|----------------|---------------|---------------|--------------|----------------|---------------|------------------|------------------|
|                  | SOUTH SAN JOAQUIN DIVISION (continued) |               |                |                  |              |                |               |               |              |                |               |                  |                  |
|                  | Reach 11B                              |               |                |                  | Reach 12D    |                |               | Reach 12E     |              |                |               |                  |                  |
|                  | CLWA                                   | DRWD          | KCWA<br>(M&I)  |                  | TLBWSD       | KCWA<br>(M&I)  |               | AC<br>FC&WCD  | ACWD         | CLWA           | DRWD          | KCWA<br>(M&I)    |                  |
|                  | [92]                                   | [93]          | [94]           | [95]             | [96]         | [97]           | [98]          | [99]          | [100]        | [101]          | [102]         | [103]            | [104]            |
| 1962             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1963             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1964             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1965             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1966             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1967             | 0                                      | 0             | 0              | 0                | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1968             | 0                                      | 0             | 0              | 24,776           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1969             | 0                                      | 0             | 0              | 64,682           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 0                |
| 1970             | 0                                      | 0             | 0              | 72,279           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 9,279            |
| 1971             | 0                                      | 0             | 0              | 63,773           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 28,056           |
| 1972             | 0                                      | 0             | 0              | 72,358           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 62,342           |
| 1973             | 0                                      | 0             | 0              | 67,544           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 13,082           |
| 1974             | 0                                      | 0             | 0              | 87,476           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 4,248            |
| 1975             | 0                                      | 0             | 0              | 85,675           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 10,787           |
| 1976             | 0                                      | 0             | 0              | 85,067           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 20,555           |
| 1977             | 0                                      | 0             | 3,981          | 29,603           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 1,737            |
| 1978             | 0                                      | 0             | 0              | 88,753           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 15,011           |
| 1979             | 0                                      | 0             | 484            | 108,379          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 50,740           |
| 1980             | 0                                      | 0             | 3,112          | 103,207          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 32,039           |
| 1981             | 0                                      | 0             | 494            | 104,395          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 58,470           |
| 1982             | 0                                      | 0             | 798            | 99,081           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 36,139           |
| 1983             | 0                                      | 0             | 2,069          | 94,117           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 10,950           |
| 1984             | 0                                      | 0             | 2,349          | 124,819          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 39,929           |
| 1985             | 0                                      | 0             | 10,666         | 118,646          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 69,839           |
| 1986             | 0                                      | 0             | 8,673          | 124,836          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 51,540           |
| 1987             | 0                                      | 0             | 13,074         | 111,877          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 86,223           |
| 1988             | 0                                      | 0             | 13,509         | 114,031          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 123,249          |
| 1989             | 0                                      | 0             | 9,986          | 127,058          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 83,965           |
| 1990             | 0                                      | 0             | 9,319          | 104,107          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 82,164           |
| 1991             | 0                                      | 0             | 6,099          | 118              | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 303              |
| 1992             | 0                                      | 0             | 7,419          | 35,093           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 57,048           |
| 1993             | 0                                      | 0             | 2,696          | 72,645           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 84,822           |
| 1994             | 0                                      | 0             | 3,506          | 71,202           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 0                | 66,188           |
| 1995             | 0                                      | 0             | 1,154          | 97,072           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 1,000            | 107,130          |
| 1996             | 0                                      | 0             | 1,185          | 96,250           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 4,131            | 89,257           |
| 1997             | 0                                      | 0             | 1,111          | 104,823          | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 8,012            | 128,329          |
| 1998             | 0                                      | 0             | 1,311          | 72,646           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 5,925            | 88,998           |
| 1999             | 0                                      | 0             | 2,127          | 92,262           | 0            | 0              | 0             | 0             | 0            | 0              | 0             | 1,321            | 110,161          |
| 2000             | 0                                      | 1,500         | 3,793          | 89,622           | 0            | 21             | 0             | 0             | 0            | 0              | 0             | 953              | 11,772           |
| 2001             | 0                                      | 0             | 636            | 73,105           | 0            | 41             | 0             | 0             | 0            | 0              | 0             | 0                | 385              |
| 2002             | 0                                      | 0             | 1,457          | 91,123           | 0            | 760            | 6             | 0             | 0            | 0              | 0             | 0                | 135,335          |
| 2003             | 0                                      | 0             | 1,379          | 87,174           | 0            | 2,431          | 152           | 0             | 0            | 0              | 0             | 0                | 112,056          |
| 2004             | 0                                      | 0             | 1,299          | 97,722           | 0            | 3,419          | 768           | 0             | 0            | 0              | 0             | 1,600            | 52,303           |
| 2005             | 0                                      | 0             | 824            | 93,554           | 0            | 2,841          | 644           | 3,419         | 1,878        | 20,000         | 1,154         | 43,835           | 340,281          |
| 2006             | 0                                      | 0             | 0              | 98,417           | 0            | 2,513          | 1,556         | 10,000        | 0            | 20,000         | 0             | 82,207           | 296,230          |
| 2007             | 0                                      | 0             | 4,030          | 94,334           | 0            | 2,164          | 2,284         | 0             | 0            | 8,200          | 0             | 1,179            | 87,764           |
| 2008             | 0                                      | 0             | 263            | 93,417           | 0            | 1,514          | 3,000         | 0             | 0            | 0              | 0             | 0                | 58,983           |
| 2009             | 0                                      | 300           | 127            | 96,776           | 0            | 564            | 4,274         | 0             | 0            | 0              | 0             | 0                | 82,434           |
| 2010             | 0                                      | 5,350         | 381            | 92,220           | 974          | 1,904          | 2,206         | 10,000        | 0            | 25,844         | 0             | 4,851            | 72,809           |
| 2011             | 0                                      | 0             | 1,160          | 105,682          | 3,500        | 973            | 65            | 10,000        | 1,960        | 0              | 0             | 0                | 26,249           |
| 2012             | 5,500                                  | 2,000         | 1,145          | 98,389           | 0            | 3,334          | 939           | 20,308        | 0            | 6,416          | 200           | 19,465           | 102,054          |
| 2013             | 5,500                                  | 2,500         | 1,167          | 110,418          | 0            | 3,473          | 1,531         | 0             | 0            | 0              | 0             | 0                | 26,652           |
| 2014             | 0                                      | 0             | 0              | 23,000           | 0            | 1,000          | 10,980        | 0             | 0            | 0              | 0             | 0                | 39,650           |
| 2015             | 0                                      | 0             | 9,000          | 47,905           | 0            | 3,900          | 0             | 5,000         | 0            | 0              | 0             | 61,491           | 55,685           |
| 2016             | 0                                      | 0             | 9,000          | 47,905           | 0            | 3,900          | 0             | 0             | 0            | 0              | 0             | 61,491           | 55,685           |
| 2017             | 0                                      | 0             | 9,000          | 47,905           | 0            | 3,900          | 0             | 0             | 0            | 0              | 0             | 61,491           | 55,685           |
| 2018             | 0                                      | 0             | 9,000          | 47,905           | 0            | 3,900          | 0             | 0             | 0            | 0              | 0             | 61,491           | 55,685           |
| 2019             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 13,920         | 0             | 49,744           | 68,236           |
| 2020             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 13,620         | 0             | 49,744           | 68,236           |
| 2021             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 12,820         | 0             | 49,744           | 68,236           |
| 2022             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 11,920         | 0             | 49,744           | 68,236           |
| 2023             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 11,120         | 0             | 49,744           | 68,236           |
| 2024             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 10,220         | 0             | 49,744           | 68,236           |
| 2025             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 9,420          | 0             | 49,744           | 68,236           |
| 2026             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 8,920          | 0             | 49,744           | 68,236           |
| 2027             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 8,320          | 0             | 49,744           | 68,236           |
| 2028             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 7,820          | 0             | 49,744           | 68,236           |
| 2029             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 7,120          | 0             | 49,744           | 68,236           |
| 2030             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 6,520          | 0             | 49,744           | 68,236           |
| 2031             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 5,620          | 0             | 49,744           | 68,236           |
| 2032             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 4,820          | 0             | 49,744           | 68,236           |
| 2033             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 4,020          | 0             | 49,744           | 68,236           |
| 2034             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 3,220          | 0             | 49,744           | 68,236           |
| 2035             | 0                                      | 0             | 9,000          | 44,254           | 0            | 7,200          | 0             | 0             | 0            | 2,420          | 0             | 49,744           | 68,236           |
| <b>TOTAL</b>     | <b>11,000</b>                          | <b>11,650</b> | <b>311,783</b> | <b>5,007,541</b> | <b>4,474</b> | <b>164,952</b> | <b>28,405</b> | <b>58,727</b> | <b>3,838</b> | <b>222,300</b> | <b>24,296</b> | <b>2,804,012</b> | <b>5,560,593</b> |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 10 of 17

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |        |       |           |       |        |               |           |         |        |               |        |        |
|---------------|--|--------|-------|-----------|-------|--------|---------------|-----------|---------|--------|---------------|--------|--------|
|               | SOUTH SAN JOAQUIN DIVISION (continued) |        |       |           |       |        |               |           |         |        |               |        |        |
|               | Reach 12E                              |        |       | Reach 13B |       |        |               |           |         |        |               |        |        |
|               | MWDSC                                  | SBVMWD | SCVWD | AC FC&WCD | ACWD  | DRWD   | KCWA<br>(M&I) | (AG)      | MWDSC   | PWD    | SBC<br>FC&WCD | SCVWD  | TLBWS  |
|               | [105]                                  | [106]  | [107] | [108]     | [109] | [110]  | [111]         | [112]     | [113]   | [114]  | [115]         | [116]  | [117]  |
| 1962          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1963          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1964          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1965          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1966          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1967          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1968          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1969          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1970          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 4,891     | 0       | 0      | 0             | 0      | 0      |
| 1971          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1972          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 17,388    | 0       | 0      | 0             | 0      | 0      |
| 1973          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 9,297     | 0       | 0      | 0             | 0      | 0      |
| 1974          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 8,038     | 4,246   | 0      | 0             | 0      | 0      |
| 1975          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 8,538     | 7,059   | 0      | 0             | 0      | 0      |
| 1976          | 0                                      | 0      | 0     | 0         | 0     | 0      | 5,626         | 8,855     | 0       | 0      | 0             | 0      | 0      |
| 1977          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 5,024     | 0       | 0      | 0             | 0      | 0      |
| 1978          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 21,773    | 7,601   | 0      | 0             | 0      | 0      |
| 1979          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 5,663     | 17,766  | 0      | 0             | 0      | 0      |
| 1980          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 22,515  | 0      | 0             | 0      | 0      |
| 1981          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 7,844     | 14,037  | 0      | 0             | 0      | 0      |
| 1982          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 25,553  | 0      | 0             | 0      | 0      |
| 1983          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 3,491   | 0      | 0             | 0      | 0      |
| 1984          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 12,117  | 26,178 | 0             | 0      | 0      |
| 1985          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 67,711  | 0      | 0             | 0      | 0      |
| 1986          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 66,551  | 0      | 0             | 0      | 0      |
| 1987          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 5,609     | 40,374  | 0      | 0             | 0      | 0      |
| 1988          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 9,298     | 47,167  | 0      | 0             | 0      | 0      |
| 1989          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 5,504     | 57,114  | 0      | 0             | 0      | 0      |
| 1990          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 7,645   | 20,423 | 0             | 0      | 0      |
| 1991          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 0       | 0      | 0             | 0      | 0      |
| 1992          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 789       | 17,449  | 0      | 0             | 0      | 0      |
| 1993          | 5,504                                  | 0      | 0     | 0         | 0     | 0      | 0             | 12,798    | 88,157  | 0      | 0             | 0      | 0      |
| 1994          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 2,494     | 33,148  | 0      | 0             | 0      | 0      |
| 1995          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 8,751     | 110,685 | 0      | 0             | 0      | 3,500  |
| 1996          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 28,063    | 64,849  | 0      | 0             | 0      | 0      |
| 1997          | 1,486                                  | 0      | 0     | 0         | 0     | 0      | 0             | 43,803    | 49,312  | 0      | 0             | 0      | 0      |
| 1998          | 24,234                                 | 0      | 0     | 0         | 0     | 0      | 0             | 29,444    | 40,085  | 5,500  | 0             | 0      | 0      |
| 1999          | 62,162                                 | 0      | 0     | 0         | 0     | 0      | 0             | 12,969    | 92,998  | 0      | 0             | 0      | 0      |
| 2000          | 149,731                                | 0      | 0     | 0         | 0     | 0      | 0             | 0         | 102,202 | 0      | 0             | 0      | 0      |
| 2001          | 0                                      | 0      | 0     | 0         | 0     | 1,733  | 0             | 0         | 33,925  | 0      | 0             | 0      | 0      |
| 2002          | 0                                      | 0      | 0     | 0         | 0     | 736    | 0             | 0         | 71,444  | 0      | 0             | 0      | 0      |
| 2003          | 45,989                                 | 0      | 0     | 0         | 0     | 350    | 2,396         | 124,582   | 1,865   | 0      | 0             | 0      | 0      |
| 2004          | 0                                      | 0      | 0     | 0         | 0     | 1,657  | 1,922         | 73,801    | 0       | 0      | 0             | 0      | 0      |
| 2005          | 15,384                                 | 0      | 2,619 | 2,321     | 0     | 14,540 | 21,781        | 269,631   | 192     | 0      | 0             | 9,014  | 0      |
| 2006          | 5,065                                  | 0      | 0     | 0         | 0     | 5,670  | 11,787        | 196,116   | 0       | 0      | 0             | 0      | 0      |
| 2007          | 0                                      | 0      | 0     | 0         | 0     | 2,161  | 0             | 72,240    | 0       | 0      | 0             | 0      | 0      |
| 2008          | 0                                      | 0      | 0     | 0         | 0     | 0      | 200           | 9,785     | 0       | 0      | 0             | 2,324  | 0      |
| 2009          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 12,060    | 0       | 0      | 0             | 0      | 0      |
| 2010          | 134,855                                | 0      | 0     | 0         | 0     | 304    | 0             | 63,966    | 22,000  | 0      | 0             | 0      | 10,000 |
| 2011          | 109,787                                | 8,066  | 706   | 2,331     | 3,420 | 34,733 | 4,896         | 273,275   | 25,845  | 4,452  | 2,548         | 0      | 0      |
| 2012          | 92,803                                 | 19,066 | 0     | 0         | 0     | 0      | 448           | 70,946    | 1,950   | 2,500  | 0             | 0      | 8,000  |
| 2013          | 0                                      | 0      | 0     | 0         | 0     | 0      | 0             | 14,189    | 0       | 0      | 0             | 0      | 0      |
| 2014          | 0                                      | 0      | 0     | 0         | 0     | 0      | 6,150         | 1,000     | 31,158  | 0      | 0             | 0      | 0      |
| 2015          | 0                                      | 0      | 0     | 0         | 0     | 0      | 735           | 39,274    | 0       | 0      | 0             | 0      | 0      |
| 2016          | 0                                      | 0      | 0     | 0         | 0     | 0      | 735           | 39,274    | 0       | 0      | 0             | 0      | 0      |
| 2017          | 0                                      | 0      | 0     | 0         | 0     | 0      | 735           | 39,274    | 0       | 0      | 0             | 0      | 0      |
| 2018          | 0                                      | 0      | 0     | 0         | 0     | 0      | 735           | 39,274    | 0       | 0      | 0             | 0      | 0      |
| 2019          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2020          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2021          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2022          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2023          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2024          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2025          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2026          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2027          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2028          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2029          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2030          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2031          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2032          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2033          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2034          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| 2035          | 38,000                                 | 0      | 0     | 0         | 0     | 0      | 0             | 4,800     | 25,447  | 0      | 0             | 0      | 0      |
| TOTAL         | 1,293,000                              | 27,132 | 3,325 | 4,652     | 3,420 | 68,034 | 365,736       | 2,978,939 | 57,352  | 6,952  | 2,548         | 11,338 | 21,500 |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 11 of 17

| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)        |           |           |           |           |           |           |       |           |         |         |         |
|------------------|--|-----------|-----------|-----------|-----------|-----------|-----------|-------|-----------|---------|---------|---------|
|                  | SOUTH SAN JOAQUIN DIVISION (continued) |           |           |           |           |           |           |       |           |         |         |         |
|                  | Reach 14A                              |           | Reach 14B |           | Reach 14C |           | Reach 15A |       | Reach 16A |         |         |         |
|                  | KCWA                                   |           | KCWA      |           | KCWA      |           | KCWA      |       | KCWA      |         | KCWA    |         |
|                  | (M&I)                                  | (AG)      | (M&I)     | (AG)      | (M&I)     | (AG)      | MWDSC     | (M&I) | (AG)      | AVEKCWA | (M&I)   | (AG)    |
|                  | [118]                                  | [119]     | [120]     | [121]     | [122]     | [123]     | [124]     | [125] | [126]     | [127]   | [128]   | [129]   |
| 1962             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1963             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1964             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1965             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1966             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1967             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1968             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1969             | 0                                      | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1970             | 0                                      | 0         | 0         | 3         | 0         | 0         | 0         | 0     | 0         | 0       | 0       | 0       |
| 1971             | 0                                      | 23,844    | 0         | 49,929    | 0         | 24,187    | 0         | 0     | 3,552     | 0       | 0       | 0       |
| 1972             | 0                                      | 26,621    | 0         | 77,034    | 0         | 35,016    | 0         | 0     | 6,064     | 0       | 0       | 4,768   |
| 1973             | 0                                      | 15,328    | 0         | 47,040    | 0         | 19,043    | 0         | 0     | 19,916    | 0       | 0       | 1,961   |
| 1974             | 0                                      | 7,794     | 0         | 32,356    | 0         | 12,601    | 0         | 0     | 18,000    | 0       | 3,000   | 1,564   |
| 1975             | 0                                      | 10,306    | 0         | 27,736    | 0         | 12,783    | 0         | 0     | 35,420    | 0       | 3,200   | 9,867   |
| 1976             | 0                                      | 268       | 0         | 35,296    | 0         | 9,005     | 0         | 0     | 39,551    | 0       | 3,500   | 11,667  |
| 1977             | 0                                      | 8,299     | 0         | 13,539    | 0         | 3,757     | 0         | 0     | 6,158     | 0       | 3,420   | 685     |
| 1978             | 0                                      | 34,029    | 0         | 72,351    | 0         | 24,542    | 0         | 0     | 31,148    | 0       | 7,989   | 1,655   |
| 1979             | 3,012                                  | 27,356    | 0         | 59,413    | 0         | 22,372    | 0         | 0     | 38,602    | 0       | 2,813   | 15,808  |
| 1980             | 4,312                                  | 16,876    | 0         | 40,513    | 0         | 19,953    | 0         | 0     | 37,817    | 0       | 2,700   | 16,145  |
| 1981             | 4,511                                  | 13,007    | 8         | 42,753    | 7         | 18,729    | 0         | 0     | 39,033    | 0       | 2,636   | 18,156  |
| 1982             | 3,735                                  | 24,240    | 184       | 57,739    | 0         | 26,479    | 0         | 0     | 47,782    | 0       | 1,921   | 16,577  |
| 1983             | 1,168                                  | 20,302    | 0         | 57,922    | 0         | 26,613    | 0         | 0     | 37,426    | 0       | 1,400   | 17,907  |
| 1984             | 137                                    | 35,369    | 10        | 79,179    | 2         | 34,996    | 0         | 0     | 49,848    | 0       | 1,338   | 24,246  |
| 1985             | 206                                    | 33,103    | 0         | 72,855    | 0         | 31,758    | 0         | 0     | 44,078    | 0       | 1,309   | 16,820  |
| 1986             | 180                                    | 26,384    | 0         | 70,864    | 0         | 34,566    | 0         | 0     | 42,461    | 0       | 1,213   | 15,559  |
| 1987             | 610                                    | 30,098    | 9         | 67,710    | 10        | 31,019    | 0         | 0     | 34,748    | 0       | 1,665   | 10,170  |
| 1988             | 622                                    | 32,778    | 19        | 75,968    | 1         | 37,165    | 0         | 16    | 41,978    | 0       | 1,925   | 8,987   |
| 1989             | 721                                    | 29,292    | 7         | 82,201    | 5         | 37,800    | 0         | 2     | 43,239    | 0       | 2,668   | 8,649   |
| 1990             | 673                                    | 26,800    | 13        | 81,076    | 9         | 34,174    | 0         | 6     | 36,347    | 0       | 2,819   | 8,608   |
| 1991             | 768                                    | 0         | 0         | 0         | 0         | 0         | 0         | 0     | 0         | 2,000   | 2,588   | 343     |
| 1992             | 673                                    | 16,238    | 464       | 41,143    | 0         | 18,084    | 0         | 0     | 24,243    | 0       | 2,087   | 8,275   |
| 1993             | 629                                    | 17,832    | 0         | 62,493    | 0         | 28,103    | 0         | 0     | 27,997    | 0       | 2,494   | 9,167   |
| 1994             | 2,513                                  | 16,760    | 3,000     | 54,011    | 1,000     | 22,624    | 0         | 0     | 29,511    | 0       | 3,011   | 13,877  |
| 1995             | 3                                      | 21,234    | 0         | 67,391    | 0         | 31,285    | 0         | 0     | 26,134    | 0       | 3,188   | 15,042  |
| 1996             | 0                                      | 26,978    | 0         | 85,036    | 0         | 38,879    | 0         | 0     | 36,186    | 0       | 2,573   | 18,142  |
| 1997             | 0                                      | 23,035    | 0         | 79,790    | 0         | 33,512    | 0         | 0     | 36,281    | 0       | 3,997   | 17,048  |
| 1998             | 0                                      | 15,706    | 0         | 58,132    | 0         | 23,097    | 0         | 0     | 28,712    | 0       | 3,751   | 17,032  |
| 1999             | 0                                      | 21,153    | 0         | 67,576    | 0         | 31,489    | 0         | 0     | 36,801    | 0       | 3,316   | 24,071  |
| 2000             | 0                                      | 19,264    | 0         | 70,585    | 0         | 33,716    | 0         | 0     | 40,063    | 0       | 3,015   | 20,919  |
| 2001             | 0                                      | 12,452    | 0         | 49,602    | 0         | 23,557    | 0         | 0     | 31,192    | 0       | 1,894   | 13,476  |
| 2002             | 0                                      | 11,161    | 0         | 52,762    | 0         | 27,138    | 0         | 0     | 41,552    | 0       | 4,227   | 14,520  |
| 2003             | 0                                      | 13,685    | 0         | 44,576    | 0         | 24,783    | 12,911    | 0     | 36,602    | 0       | 1,168   | 16,799  |
| 2004             | 0                                      | 13,030    | 0         | 52,012    | 0         | 30,313    | 0         | 0     | 40,184    | 0       | 2,239   | 19,714  |
| 2005             | 0                                      | 15,663    | 0         | 56,739    | 0         | 21,979    | 0         | 0     | 39,870    | 0       | 167     | 18,353  |
| 2006             | 0                                      | 17,779    | 0         | 65,142    | 1,413     | 20,193    | 5,440     | 0     | 46,244    | 0       | 279     | 22,570  |
| 2007             | 0                                      | 21,435    | 0         | 67,955    | 0         | 24,947    | 1,881     | 0     | 47,390    | 0       | 204     | 26,229  |
| 2008             | 0                                      | 20,087    | 0         | 63,497    | 0         | 27,847    | 0         | 0     | 33,029    | 0       | 3,834   | 18,426  |
| 2009             | 0                                      | 22,281    | 0         | 60,726    | 0         | 27,185    | 0         | 0     | 26,007    | 0       | 1,531   | 19,517  |
| 2010             | 0                                      | 21,964    | 0         | 58,110    | 0         | 25,477    | 29,818    | 0     | 22,045    | 0       | 1,033   | 19,829  |
| 2011             | 0                                      | 24,131    | 0         | 61,859    | 0         | 27,061    | 27,326    | 0     | 42,158    | 0       | 3,808   | 17,957  |
| 2012             | 0                                      | 25,982    | 0         | 64,489    | 0         | 23,446    | 31,703    | 0     | 27,920    | 0       | 3,453   | 19,842  |
| 2013             | 0                                      | 29,414    | 0         | 62,137    | 0         | 25,004    | 6,592     | 0     | 28,147    | 0       | 148     | 21,311  |
| 2014             | 0                                      | 53,611    | 2,000     | 56,307    | 0         | 54,488    | 20,000    | 0     | 48,280    | 0       | 2,730   | 51,124  |
| 2015             | 0                                      | 16,900    | 0         | 39,900    | 0         | 19,700    | 20,000    | 0     | 28,153    | 0       | 4,556   | 14,810  |
| 2016             | 0                                      | 16,900    | 0         | 39,900    | 0         | 19,700    | 20,000    | 0     | 28,153    | 0       | 4,556   | 14,810  |
| 2017             | 0                                      | 16,900    | 0         | 39,900    | 0         | 19,700    | 20,000    | 0     | 28,153    | 0       | 4,556   | 14,810  |
| 2018             | 0                                      | 16,900    | 0         | 39,900    | 0         | 19,700    | 20,000    | 0     | 28,153    | 0       | 4,556   | 14,810  |
| 2019             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2020             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2021             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2022             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2023             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2024             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2025             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2026             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2027             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2028             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2029             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2030             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2031             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2032             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2033             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2034             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| 2035             | 0                                      | 16,900    | 0         | 40,900    | 0         | 19,700    | 0         | 0     | 27,153    | 0       | 6,966   | 13,600  |
| TOTAL            | 24,473                                 | 1,277,869 | 5,714     | 3,401,347 | 2,447     | 1,554,465 | 215,671   | 24    | 2,023,929 | 2,000   | 238,897 | 943,822 |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued) |           |                 |        |           |       |        |           |     |         |          |
|------------------|---------------------------------|-----------|-----------------|--------|-----------|-------|--------|-----------|-----|---------|----------|
|                  | TEHACHAPI<br>DIVISION           |           | MOJAVE DIVISION |        |           |       |        |           |     |         |          |
|                  | Reach 17E                       | Reach 18A | Reach 19        |        | Reach 20A |       |        | Reach 20B |     |         | Reach 21 |
|                  | KCWA                            |           | (M&I)           | AVEKWA | AVEKWA    | MWA   | AVEKWA | MWA       | PWD | AVEKWA  | LCID     |
| 1962             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1963             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1964             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1965             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1966             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1967             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1968             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1969             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1970             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1971             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1972             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1973             | 0                               | 0         | 0               | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1974             | 0                               | 0         | 1,223           | 0      | 0         | 0     | 0      | 0         | 0   | 0       | 0        |
| 1975             | 0                               | 0         | 7,622           | 0      | 420       | 0     | 0      | 0         | 0   | 0       | 0        |
| 1976             | 0                               | 3,808     | 23,063          | 0      | 471       | 0     | 0      | 416       | 0   | 0       | 0        |
| 1977             | 0                               | 1,231     | 8,927           | 0      | 773       | 0     | 0      | 271       | 0   | 0       | 0        |
| 1978             | 0                               | 1,321     | 36,333          | 0      | 5,549     | 0     | 0      | 934       | 0   | 0       | 0        |
| 1979             | 0                               | 2,098     | 49,910          | 0      | 7,555     | 0     | 0      | 930       | 0   | 0       | 0        |
| 1980             | 0                               | 2,610     | 61,534          | 0      | 7,605     | 0     | 0      | 655       | 0   | 0       | 0        |
| 1981             | 0                               | 2,340     | 65,690          | 0      | 10,333    | 0     | 0      | 966       | 0   | 0       | 0        |
| 1982             | 0                               | 1,669     | 41,127          | 0      | 7,313     | 0     | 0      | 8         | 0   | 0       | 0        |
| 1983             | 0                               | 43        | 26,377          | 0      | 6,253     | 0     | 0      | 20        | 0   | 0       | 0        |
| 1984             | 0                               | 90        | 22,462          | 0      | 9,558     | 0     | 0      | 2         | 0   | 0       | 0        |
| 1985             | 0                               | 8         | 23,440          | 0      | 11,613    | 0     | 1,510  | 217       | 0   | 32      | 0        |
| 1986             | 0                               | 8         | 16,898          | 0      | 13,808    | 0     | 3,041  | 0         | 0   | 45      | 0        |
| 1987             | 0                               | 0         | 15,958          | 0      | 15,493    | 0     | 2,389  | 151       | 0   | 1,624   | 0        |
| 1988             | 0                               | 0         | 13,471          | 0      | 17,117    | 0     | 366    | 281       | 0   | 1,261   | 0        |
| 1989             | 0                               | 0         | 18,007          | 0      | 23,481    | 0     | 381    | 112       | 0   | 7,848   | 0        |
| 1990             | 0                               | 0         | 17,281          | 0      | 25,843    | 0     | 282    | 84        | 0   | 8,292   | 0        |
| 1991             | 0                               | 0         | 728             | 0      | 4,282     | 1,391 | 84     | 131       | 0   | 3,830   | 0        |
| 1992             | 0                               | 0         | 7,238           | 0      | 18,518    | 1,310 | 185    | 650       | 0   | 3,850   | 0        |
| 1993             | 0                               | 0         | 13,340          | 0      | 23,662    | 1,514 | 164    | 996       | 0   | 7,597   | 0        |
| 1994             | 0                               | 0         | 19,122          | 0      | 25,250    | 1,399 | 299    | 124       | 0   | 8,119   | 0        |
| 1995             | 0                               | 0         | 20,222          | 0      | 22,385    | 1,227 | 328    | 0         | 0   | 6,633   | 0        |
| 1996             | 0                               | 0         | 23,919          | 0      | 26,979    | 1,316 | 354    | 0         | 0   | 11,080  | 0        |
| 1997             | 0                               | 0         | 28,834          | 64     | 27,999    | 1,272 | 313    | 0         | 0   | 11,548  | 0        |
| 1998             | 0                               | 0         | 22,466          | 1,345  | 25,985    | 0     | 195    | 0         | 0   | 8,557   | 0        |
| 1999             | 0                               | 0         | 30,944          | 1,439  | 32,409    | 0     | 377    | 36        | 0   | 12,901  | 0        |
| 2000             | 0                               | 0         | 34,786          | 1,361  | 37,819    | 0     | 0      | 80        | 0   | 9,060   | 5,002    |
| 2001             | 0                               | 0         | 24,370          | 1,385  | 33,216    | 0     | 0      | 282       | 0   | 10,427  | 0        |
| 2002             | 0                               | 0         | 14,297          | 1,370  | 36,311    | 0     | 0      | 1,662     | 0   | 18,496  | 0        |
| 2003             | 0                               | 0         | 12,145          | 1,285  | 39,532    | 0     | 0      | 2,289     | 0   | 11,547  | 0        |
| 2004             | 0                               | 0         | 11,201          | 1,223  | 40,408    | 0     | 0      | 1,774     | 0   | 12,139  | 0        |
| 2005             | 0                               | 11        | 11,804          | 1,051  | 41,496    | 0     | 0      | 1,336     | 0   | 11,678  | 0        |
| 2006             | 0                               | 0         | 18,438          | 1,021  | 53,878    | 0     | 0      | 1,415     | 0   | 12,487  | 0        |
| 2007             | 0                               | 0         | 22,916          | 1,176  | 47,639    | 0     | 0      | 1,349     | 0   | 19,609  | 0        |
| 2008             | 0                               | 0         | 9,096           | 1,238  | 33,919    | 0     | 0      | 792       | 25  | 14,255  | 0        |
| 2009             | 0                               | 0         | 5,717           | 1,345  | 35,402    | 0     | 0      | 366       | 42  | 15,339  | 0        |
| 2010             | 0                               | 0         | 10,825          | 1,181  | 43,122    | 0     | 0      | 643       | 0   | 10,969  | 0        |
| 2011             | 0                               | 0         | 55,707          | 2,184  | 35,543    | 0     | 0      | 507       | 0   | 9,881   | 0        |
| 2012             | 0                               | 0         | 41,053          | 1,306  | 33,390    | 0     | 0      | 901       | 0   | 16,397  | 0        |
| 2013             | 4                               | 16        | 13,399          | 1,095  | 33,507    | 0     | 0      | 693       | 0   | 10,567  | 0        |
| 2014             | 1                               | 172       | 871             | 2,323  | 24,975    | 155   | 0      | 1,428     | 0   | 7,135   | 0        |
| 2015             | 120                             | 3,444     | 16,703          | 2,833  | 62,131    | 0     | 0      | 1,829     | 0   | 12,780  | 0        |
| 2016             | 120                             | 3,444     | 19,299          | 2,833  | 59,397    | 0     | 0      | 1,884     | 0   | 12,780  | 0        |
| 2017             | 120                             | 3,444     | 19,299          | 2,833  | 59,309    | 0     | 0      | 1,941     | 0   | 12,780  | 0        |
| 2018             | 120                             | 3,444     | 19,299          | 2,833  | 59,162    | 0     | 0      | 2,001     | 0   | 12,780  | 0        |
| 2019             | 0                               | 2,300     | 18,450          | 3,298  | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2020             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2021             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2022             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2023             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2024             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2025             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2026             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2027             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2028             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2029             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2030             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2031             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2032             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2033             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2034             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| 2035             | 0                               | 2,300     | 18,450          | 898    | 54,860    | 0     | 0      | 1,830     | 0   | 12,780  | 0        |
| TOTAL            | 485                             | 68,301    | 1,291,011       | 52,390 | 2,113,430 | 9,584 | 10,268 | 61,266    | 67  | 551,583 | 5,002    |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

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| Calendar Year | CALIFORNIA AQUEDUCT (continued) |       |           |       |            |          |         |           |           |          |          |
|---------------|---------------------------------|-------|-----------|-------|------------|----------|---------|-----------|-----------|----------|----------|
|               | MOJAVE DIVISION                 |       |           |       |            |          |         |           |           |          |          |
|               | Reach 21                        |       | Reach 22A |       | Reach 22B  |          |         |           |           | Reach 23 | Reach 24 |
|               | LCID                            | PWD   | AVEKWA    | LCID  | AVEKWA (d) | CVWD (e) | DWA (e) | MWDSC (e) | MWA       | MWA      | CLAWA    |
|               | [141]                           | [142] | [143]     | [144] | [145]      | [146]    | [147]   | [148]     | [149]     | [150]    | [151]    |
| 1962          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1963          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1964          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1965          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1966          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1967          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1968          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1969          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1970          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1971          | 0                               | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 0        |
| 1972          | 338                             | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 55        | 0        | 464      |
| 1973          | 290                             | 0     | 0         | 0     | 0          | 5,800    | 9,000   | (14,800)  | 0         | 0        | 389      |
| 1974          | 400                             | 0     | 0         | 0     | 0          | 6,400    | 10,000  | (16,400)  | 0         | 14       | 627      |
| 1975          | 520                             | 0     | 0         | 0     | 0          | 7,000    | 11,000  | (18,000)  | 0         | 0        | 825      |
| 1976          | 589                             | 0     | 0         | 0     | 0          | 7,600    | 12,000  | (19,600)  | 0         | 0        | 1,002    |
| 1977          | 111                             | 0     | 0         | 0     | 0          | 0        | 0       | 0         | 22        | 58       | 1,109    |
| 1978          | 208                             | 0     | 0         | 0     | 0          | 10,084   | 15,300  | (25,384)  | 0         | 0        | 1,209    |
| 1979          | 133                             | 0     | 0         | 0     | 0          | 10,063   | 15,000  | (25,063)  | 4,000     | 0        | 1,260    |
| 1980          | 191                             | 0     | 3         | 0     | 0          | 10,884   | 17,000  | (27,884)  | 4,000     | 0        | 1,239    |
| 1981          | 1,270                           | 0     | 46        | 0     | 0          | 12,105   | 19,000  | (31,105)  | 4,000     | 0        | 1,485    |
| 1982          | 0                               | 0     | 174       | 0     | 0          | 13,326   | 21,000  | (34,326)  | 10,500    | 0        | 1,238    |
| 1983          | 38                              | 0     | 268       | 0     | 0          | 14,547   | 23,000  | (37,547)  | 0         | 0        | 911      |
| 1984          | 1                               | 0     | 550       | 0     | 0          | 15,768   | 25,000  | (40,768)  | 0         | 0        | 1,128    |
| 1985          | 0                               | 16    | 1,786     | 0     | 0          | 16,989   | 27,000  | (43,989)  | 0         | 0        | 1,422    |
| 1986          | 163                             | 10    | 1,735     | 0     | 0          | 18,210   | 29,000  | (47,210)  | 0         | 0        | 1,506    |
| 1987          | 1,080                           | 1,366 | 2,273     | 5     | 214        | 19,431   | 31,500  | (50,931)  | 17        | 0        | 1,849    |
| 1988          | 419                             | 143   | 3,210     | 0     | 0          | 20,652   | 34,000  | (54,652)  | 9         | 0        | 2,006    |
| 1989          | 971                             | 780   | 3,591     | 0     | 89         | 21,873   | 36,500  | (58,373)  | 0         | 200      | 2,170    |
| 1990          | 1,747                           | 34    | 3,988     | 0     | 10         | 23,100   | 38,100  | (61,200)  | 0         | 0        | 1,827    |
| 1991          | 522                             | 0     | 2,427     | 0     | 0          | 6,930    | 11,430  | (18,360)  | 0         | 0        | 849      |
| 1992          | 251                             | 0     | 3,859     | 0     | 0          | 10,427   | 17,197  | (27,624)  | 42        | 0        | 519      |
| 1993          | 734                             | 0     | 5,098     | 0     | 0          | 0        | 0       | 0         | 0         | 0        | 439      |
| 1994          | 1,098                           | 0     | 4,657     | 0     | 0          | 0        | 0       | 0         | 14,634    | 0        | 785      |
| 1995          | 480                             | 0     | 4,679     | 0     | 0          | 0        | 0       | 0         | 7,495     | 0        | 409      |
| 1996          | 494                             | 0     | 5,458     | 0     | 0          | 0        | 0       | 0         | 6,111     | 0        | 485      |
| 1997          | 444                             | 0     | 5,549     | 0     | 0          | 0        | 0       | 0         | 9,038     | 0        | 651      |
| 1998          | 404                             | 0     | 4,468     | 0     | 0          | 0        | 0       | 0         | 2,580     | 0        | 187      |
| 1999          | 342                             | 0     | 5,684     | 0     | 0          | 0        | 0       | 0         | 6,705     | 0        | 1,132    |
| 2000          | 0                               | 0     | 5,890     | 0     | 0          | 0        | 0       | 0         | 10,019    | 0        | 1,194    |
| 2001          | 0                               | 0     | 4,989     | 0     | 0          | 0        | 0       | 0         | 3,048     | 0        | 1,057    |
| 2002          | 0                               | 0     | 5,404     | 0     | 497        | 0        | 0       | 0         | 2,976     | 0        | 2,189    |
| 2003          | 0                               | 0     | 6,063     | 0     | 0          | 0        | 0       | 7,625     | 13,150    | 0        | 1,563    |
| 2004          | 0                               | 23    | 6,095     | 0     | 253        | 0        | 0       | 0         | 11,953    | 0        | 2,006    |
| 2005          | 0                               | 34    | 5,184     | 0     | 0          | 0        | 0       | 5,942     | 12,169    | 0        | 807      |
| 2006          | 0                               | 5     | 6,653     | 0     | 0          | 0        | 0       | 0         | 32,993    | 0        | 641      |
| 2007          | 0                               | 25    | 7,711     | 0     | 588        | 0        | 0       | 0         | 27,684    | 0        | 1,768    |
| 2008          | 0                               | 0     | 4,756     | 0     | 0          | 0        | 0       | 0         | 20,479    | 0        | 848      |
| 2009          | 0                               | 0     | 4,185     | 0     | 0          | 0        | 0       | 0         | 20,214    | 0        | 894      |
| 2010          | 0                               | 0     | 3,899     | 0     | 0          | 0        | 0       | 0         | 27,640    | 0        | 357      |
| 2011          | 0                               | 0     | 2,289     | 0     | 0          | 0        | 0       | 30,907    | 2,915     | 0        | 474      |
| 2012          | 0                               | 0     | 2,328     | 0     | 0          | 0        | 0       | 12,025    | 9,938     | 0        | 624      |
| 2013          | 0                               | 0     | 3,227     | 0     | 114        | 0        | 0       | 0         | 5,888     | 0        | 1,368    |
| 2014          | 115                             | 0     | 163       | 0     | 0          | 0        | 0       | 0         | 393       | 0        | 2,176    |
| 2015          | 1,380                           | 0     | 2,747     | 0     | 52         | 0        | 0       | 0         | 18,612    | 0        | 3,480    |
| 2016          | 1,380                           | 0     | 2,830     | 0     | 52         | 0        | 0       | 0         | 20,612    | 0        | 3,480    |
| 2017          | 1,380                           | 0     | 2,913     | 0     | 0          | 0        | 0       | 0         | 20,612    | 0        | 3,480    |
| 2018          | 1,380                           | 0     | 3,000     | 0     | 0          | 0        | 0       | 0         | 20,612    | 0        | 3,480    |
| 2019          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 41,582    | 0        | 3,480    |
| 2020          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2021          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2022          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2023          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2024          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2025          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2026          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2027          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2028          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2029          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2030          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2031          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2032          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2033          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2034          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| 2035          | 1,380                           | 0     | 7,400     | 0     | 0          | 0        | 0       | 0         | 43,982    | 0        | 3,480    |
| <b>TOTAL</b>  | 42,333                          | 2,436 | 265,629   | 5     | 1,869      | 251,189  | 402,027 | (596,717) | 1,096,409 | 272      | 120,168  |

(d) 1988 advance allocation.

(e) In accordance with the Exchange Agreement between the noted agencies, MWDSC assumed responsibility for payment of variable OMP&R costs on the exchange water in reaches beyond Reach 22B, and Desert Water Agency and Coachella Valley Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries in Reach 22B provides for compliance with provisions for the repayment of costs under the agreement. In 1993 and after, the exchange takes place in Reach 26A.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

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| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                |              |                    |                  |                   |                |                |               |                |               |
|---------------|---------------------------------|----------------|--------------|--------------------|------------------|-------------------|----------------|----------------|---------------|----------------|---------------|
|               | MOJAVE DIVISION (cont)          |                |              | SANTA ANA DIVISION |                  |                   |                |                |               |                |               |
|               | Reach 24                        |                |              | Reach 26A          |                  |                   |                | Reach 28G      |               | Reach 28H      |               |
|               | MWDSC (e)                       | MWA            | SBVMWD       | CVWD(e)            | DWA(e)           | MWDSC (e)         | SBVMWD (f)     | SGVMWD         | MWDSC         | CVWD           | DWA           |
|               | [152]                           | [153]          | [154]        | [155]              | [156]            | [157]             | [158]          | [159]          | [160]         | [161]          | [162]         |
| 1962          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1963          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1964          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1965          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1966          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1967          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1968          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1969          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1970          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1971          | 0                               | 0              | 0            | 0                  | 0                | 0                 | 0              | 0              | 0             | 0              | 0             |
| 1972          | 0                               | 0              | 0            | 0                  | 0                | 1,275             | 0              | 0              | 0             | 0              | 0             |
| 1973          | 0                               | 0              | 0            | 0                  | 0                | 444               | 32,426         | 0              | 18,942        | 0              | 0             |
| 1974          | 0                               | 0              | 0            | 0                  | 0                | 84,981            | 16,605         | 612            | 0             | 0              | 0             |
| 1975          | 0                               | 0              | 0            | 0                  | 0                | 169,960           | 13,865         | 5,450          | 0             | 0              | 0             |
| 1976          | 0                               | 0              | 0            | 0                  | 0                | 215,312           | 12,273         | 6,071          | 0             | 0              | 0             |
| 1977          | 0                               | 0              | 0            | 0                  | 0                | 64,823            | 24,833         | 8,996          | 0             | 0              | 0             |
| 1978          | 0                               | 0              | 0            | 0                  | 0                | 297,708           | 4,055          | 7,771          | 0             | 0              | 0             |
| 1979          | 0                               | 0              | 0            | 0                  | 0                | 260,903           | 18             | 290            | 0             | 0              | 0             |
| 1980          | 0                               | 0              | 0            | 0                  | 0                | 300,345           | 0              | 1,085          | 0             | 0              | 0             |
| 1981          | 0                               | 0              | 0            | 0                  | 0                | 395,678           | 16,021         | 3,619          | 0             | 0              | 0             |
| 1982          | 0                               | 0              | 0            | 0                  | 0                | 214,566           | 8,409          | 12,599         | 0             | 0              | 0             |
| 1983          | 0                               | 0              | 0            | 0                  | 0                | 175,288           | 5,994          | 734            | 0             | 0              | 0             |
| 1984          | 0                               | 0              | 0            | 0                  | 0                | 122,311           | 5,556          | 7,656          | 0             | 0              | 0             |
| 1985          | 0                               | 0              | 0            | 0                  | 0                | 147,599           | 7,390          | 5,028          | 0             | 0              | 0             |
| 1986          | 0                               | 0              | 0            | 0                  | 0                | 215,265           | 6,421          | 9,454          | 0             | 0              | 0             |
| 1987          | 0                               | 0              | 0            | 0                  | 0                | 175,012           | 18,751         | 10,630         | 0             | 0              | 0             |
| 1988          | 0                               | 0              | 0            | 0                  | 0                | 247,101           | 21,386         | 8,948          | 0             | 0              | 0             |
| 1989          | 0                               | 0              | 0            | 0                  | 0                | 326,217           | 20,782         | 12,839         | 0             | 0              | 0             |
| 1990          | 0                               | 0              | 0            | 0                  | 0                | 399,387           | 18,831         | 16,649         | 0             | 0              | 0             |
| 1991          | 0                               | 2,032          | 0            | 0                  | 0                | 107,182           | 3,661          | 5,399          | 0             | 0              | 0             |
| 1992          | 0                               | 9,334          | 0            | 0                  | 0                | 219,524           | 3,358          | 7,908          | 0             | 0              | 0             |
| 1993          | 0                               | 10,000         | 0            | 23,100             | 38,100           | 98,291            | 4,361          | 14,397         | 0             | 0              | 0             |
| 1994          | 0                               | 819            | 0            | 14,102             | 23,257           | 192,979           | 9,135          | 15,230         | 0             | 0              | 0             |
| 1995          | 0                               | 0              | 0            | 23,100             | 38,100           | 107,299           | 696            | 12,922         | 0             | 0              | 0             |
| 1996          | 0                               | 0              | 0            | 62,219             | 102,622          | 73,438            | 6,064          | 15,989         | 0             | 0              | 0             |
| 1997          | 0                               | 0              | 0            | 58,100             | 53,100           | 157,215           | 9,654          | 18,175         | 0             | 0              | 0             |
| 1998          | 0                               | 0              | 0            | 78,100             | 58,100           | 36,770            | 1,878          | 9,310          | 0             | 6,582          | 7,708         |
| 1999          | 0                               | 0              | 0            | 50,480             | 58,100           | 139,752           | 12,874         | 21,729         | 0             | 0              | 0             |
| 2000          | 0                               | 0              | 0            | 42,323             | 58,234           | 326,647           | 0              | 15,140         | 0             | 0              | 0             |
| 2001          | 0                               | 0              | 0            | 9,100              | 15,010           | 284,007           | 0              | 2,360          | 0             | 0              | 0             |
| 2002          | 0                               | 0              | 0            | 16,755             | 27,640           | 301,700           | 26,399         | 24,851         | 0             | 0              | 0             |
| 2003          | 17,249                          | 0              | 0            | 14,443             | 23,819           | 464,719           | 5,000          | 21,934         | 0             | 0              | 0             |
| 2004          | 0                               | 0              | 0            | 15,465             | 21,190           | 428,316           | 40,000         | 12,541         | 0             | 0              | 0             |
| 2005          | 14,058                          | 341            | 0            | 34,356             | 49,089           | 361,976           | 15,834         | 13,984         | 0             | 0              | 0             |
| 2006          | 0                               | 0              | 0            | 121,100            | 50,000           | 404,594           | 20,000         | 16,284         | 0             | 0              | 0             |
| 2007          | 0                               | 17,249         | 710          | 66,007             | 27,253           | 370,971           | 10,022         | 4,024          | 0             | 7,221          | 2,981         |
| 2008          | 0                               | 3,679          | 411          | 40,171             | 24,643           | 210,520           | 187            | 7,212          | 0             | 6,620          | 1,785         |
| 2009          | 0                               | 7,488          | 149          | 45,074             | 17,872           | 138,216           | 0              | 11,520         | 0             | 948            | 391           |
| 2010          | 0                               | 9,331          | 26           | 53,866             | 18,398           | 463,654           | 20,008         | 19,180         | 0             | 30,415         | 12,257        |
| 2011          | 14,141                          | 0              | 31           | 84,566             | 34,076           | 610,454           | 368            | 23,591         | 0             | 5,713          | 2,303         |
| 2012          | 2,994                           | 0              | 0            | 98,793             | 33,806           | 362,047           | 50,723         | 22,058         | 0             | 16,575         | 8,266         |
| 2013          | 0                               | 500            | 0            | 33,551             | 17,611           | 234,576           | 1,120          | 9,252          | 0             | 28,232         | 3,180         |
| 2014          | 0                               | 0              | 0            | 12,750             | 2,989            | 138,786           | 0              | 1,200          | 0             | 0              | 0             |
| 2015          | 0                               | 5,000          | 50           | 42,989             | 30,758           | 473,009           | 0              | 17,280         | 0             | 40,021         | 2,692         |
| 2016          | 0                               | 5,000          | 50           | 42,989             | 30,758           | 473,009           | 0              | 17,280         | 0             | 40,021         | 2,692         |
| 2017          | 0                               | 7,000          | 50           | 42,989             | 30,758           | 473,009           | 0              | 17,280         | 0             | 40,021         | 2,692         |
| 2018          | 0                               | 7,000          | 50           | 42,989             | 30,758           | 473,009           | 0              | 17,280         | 0             | 40,021         | 2,692         |
| 2019          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2020          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2021          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2022          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2023          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2024          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2025          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2026          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2027          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2028          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2029          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2030          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2031          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2032          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2033          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2034          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| 2035          | 0                               | 9,000          | 260          | 83,010             | 33,450           | 465,085           | 0              | 17,280         | 0             | 0              | 0             |
| <b>TOTAL</b>  | <b>48,442</b>                   | <b>237,773</b> | <b>5,947</b> | <b>2,580,647</b>   | <b>1,484,691</b> | <b>19,845,014</b> | <b>476,233</b> | <b>807,501</b> | <b>18,942</b> | <b>262,390</b> | <b>49,639</b> |

(e) In accordance with the Exchange Agreement between the noted agencies, MWDSC assumed responsibility for payment of variable OMP&R costs on the exchange water in reaches beyond Reach 22B, and Desert Water Agency and Coachella Valley Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries in Reach 22B provides for compliance with provisions for the repayment of costs under the agreement. In 1993 and after, the exchange takes place in Reach 26A.

(f) Includes 1,650 AF recaptured from ground water storage in 1982, 10,000 AF in 1987, and 8,749 AF in 1988. This water was stored under DWR's Ground Water Demonstration Program.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

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| Calendar<br>Year | (in acre-feet)                  |           |       |           |            |         |           |             |             |   |
|------------------|---------------------------------|-----------|-------|-----------|------------|---------|-----------|-------------|-------------|---|
|                  | CALIFORNIA AQUEDUCT (continued) |           |       |           |            |         |           |             |             |   |
|                  | SANTA ANA DIVISION (continued)  |           |       |           |            |         |           |             |             |   |
|                  | Reach 28H                       | Reach 28J |       |           | Reach EBX1 |         |           | Reach EBX2C | Reach EBX3A |   |
|                  | MWDSC                           | CVWD      | DWA   | MWDSC     | CVWD       | MWDSC   | SBVMWD    | SBVMWD      | SBVMWD      |   |
|                  | [163]                           | [164]     | [165] | [166]     | [167]      | [168]   | [169]     | [170]       | [171]       |   |
| 1962             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1963             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1964             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1965             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1966             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1967             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1968             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1969             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1970             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1971             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1972             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1973             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1974             | 0                               | 0         | 0     | 0         | 0          | 0       | 0         | 0           | 0           | 0 |
| 1975             | 0                               | 0         | 0     | 251       | 0          | 0       | 0         | 0           | 0           | 0 |
| 1976             | 55                              | 0         | 0     | 2,000     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1977             | 43                              | 0         | 0     | 2,442     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1978             | 48                              | 0         | 0     | 64,054    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1979             | 1,290                           | 0         | 0     | 94,353    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1980             | 3,013                           | 0         | 0     | 91,532    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1981             | 4,365                           | 0         | 0     | 149,405   | 0          | 0       | 0         | 0           | 0           | 0 |
| 1982             | 3,961                           | 0         | 0     | 155,629   | 0          | 0       | 0         | 0           | 0           | 0 |
| 1983             | 6,645                           | 0         | 0     | 41,616    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1984             | 109,743                         | 0         | 0     | 5,672     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1985             | 182,781                         | 0         | 0     | 6,538     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1986             | 131,439                         | 0         | 0     | 30,071    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1987             | 144,743                         | 0         | 0     | 26,315    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1988             | 199,641                         | 0         | 0     | 22,209    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1989             | 247,430                         | 0         | 0     | 51,462    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1990             | 257,796                         | 0         | 0     | 36,060    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1991             | 38,832                          | 0         | 0     | 5,958     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1992             | 85,341                          | 0         | 0     | 12,223    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1993             | 61,841                          | 0         | 0     | 4,588     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1994             | 134,262                         | 0         | 0     | 4,725     | 0          | 0       | 0         | 0           | 0           | 0 |
| 1995             | 117,762                         | 0         | 0     | 21,099    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1996             | 144,906                         | 0         | 0     | 12,418    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1997             | 107,853                         | 0         | 0     | 47,777    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1998             | 77,473                          | 1,027     | 4,839 | 50,411    | 0          | 0       | 0         | 0           | 0           | 0 |
| 1999             | 206,689                         | 0         | 0     | 8,163     | 0          | 0       | 0         | 0           | 0           | 0 |
| 2000             | 379,713                         | 0         | 0     | 7,864     | 0          | 5,466   | 18,399    | 0           | 0           | 0 |
| 2001             | 260,984                         | 0         | 0     | 33,414    | 0          | 0       | 26,488    | 0           | 0           | 0 |
| 2002             | 340,635                         | 0         | 0     | 41,552    | 0          | 1,427   | 37,069    | 0           | 0           | 0 |
| 2003             | 246,485                         | 0         | 0     | 50,776    | 0          | 74,496  | 16,703    | 1,793       | 2,617       |   |
| 2004             | 357,995                         | 0         | 0     | 20,437    | 0          | 120,338 | 13,229    | 1,430       | 2,371       |   |
| 2005             | 242,245                         | 0         | 0     | 114,499   | 8,163      | 153,700 | 12,715    | 966         | 2,035       |   |
| 2006             | 342,734                         | 0         | 0     | 32,242    | 0          | 147,432 | 11,832    | 885         | 2,614       |   |
| 2007             | 271,874                         | 0         | 0     | 48,923    | 0          | 94,208  | 38,151    | 3,130       | 5,103       |   |
| 2008             | 175,460                         | 0         | 0     | 10,432    | 0          | 16,745  | 25,038    | 686         | 8,823       |   |
| 2009             | 126,265                         | 0         | 0     | 5,849     | 0          | 18,314  | 25,041    | 4,090       | 10,066      |   |
| 2010             | 129,145                         | 1,311     | 528   | 65,439    | 0          | 0       | 19,190    | 617         | 9,538       |   |
| 2011             | 213,215                         | 0         | 0     | 51,638    | 0          | 0       | 19,578    | 699         | 9,384       |   |
| 2012             | 86,266                          | 2,219     | 3,029 | 36,875    | 0          | 0       | 27,534    | 3,177       | 9,604       |   |
| 2013             | 45,039                          | 4,756     | 0     | 40,494    | 0          | 0       | 19,850    | 3,034       | 8,081       |   |
| 2014             | 1,091                           | 0         | 0     | 0         | 0          | 0       | 12,972    | 111         | 3,899       |   |
| 2015             | 23,305                          | 0         | 0     | 21,170    | 0          | 0       | 61,510    | 0           | 0           |   |
| 2016             | 23,305                          | 0         | 0     | 21,170    | 0          | 0       | 61,510    | 0           | 0           |   |
| 2017             | 23,305                          | 0         | 0     | 21,170    | 0          | 0       | 61,510    | 0           | 0           |   |
| 2018             | 23,305                          | 0         | 0     | 21,170    | 0          | 0       | 61,510    | 0           | 0           |   |
| 2019             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2020             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2021             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2022             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2023             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2024             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2025             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2026             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2027             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2028             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2029             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2030             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2031             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2032             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2033             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2034             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| 2035             | 69,282                          | 0         | 0     | 58,345    | 0          | 0       | 61,300    | 0           | 0           |   |
| TOTAL            | 6,758,112                       | 9,313     | 8,396 | 2,583,950 | 8,163      | 632,126 | 1,611,929 | 20,618      | 74,135      |   |

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 16 of 17

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |             |             |           |        |           |        |        |            |        |        |
|---------------|---------------------------------|-------------|-------------|-----------|--------|-----------|--------|--------|------------|--------|--------|
|               | SANTA ANA DIVISION (continued)  |             | WEST BRANCH |           |        |           |        |        |            |        |        |
|               | Reach EBX4B-G                   | Reach EBX4B | Reach 29F   | Reach 29H |        | Reach 30  |        |        |            |        |        |
|               | SGPWA                           | SGPWA       | AVEKWA      | CLWA      | VCFCD  | CLWA      | CVWD   | DWA    | MWDSC (g)  | MWA    | SBVMWD |
|               | [172]                           | [173]       | [174]       | [175]     | [176]  | [177]     | [178]  | [179]  | [180]      | [181]  | [182]  |
| 1962          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1963          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1964          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1965          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1966          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1967          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1968          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1969          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1970          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1971          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 0          | 0      | 0      |
| 1972          | 0                               | 0           | 53          | 0         | 0      | 0         | 0      | 0      | 71,938     | 0      | 0      |
| 1973          | 0                               | 0           | 20          | 0         | 0      | 0         | 0      | 0      | 155,297    | 0      | 0      |
| 1974          | 0                               | 0           | 36          | 0         | 0      | 0         | 0      | 0      | 209,136    | 0      | 0      |
| 1975          | 0                               | 0           | 26          | 0         | 0      | 0         | 0      | 0      | 374,280    | 0      | 0      |
| 1976          | 0                               | 0           | 24          | 0         | 0      | 0         | 0      | 0      | 420,684    | 0      | 0      |
| 1977          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 122,447    | 0      | 0      |
| 1978          | 0                               | 0           | 0           | 0         | 0      | 0         | 0      | 0      | 171,139    | 0      | 0      |
| 1979          | 0                               | 0           | 0           | 0         | 0      | 0         | 7      | 0      | 145,591    | 0      | 0      |
| 1980          | 0                               | 0           | 0           | 0         | 0      | 0         | 1,210  | 0      | 164,721    | 0      | 0      |
| 1981          | 0                               | 0           | 0           | 0         | 0      | 5,761     | 0      | 0      | 277,503    | 0      | 0      |
| 1982          | 0                               | 0           | 0           | 0         | 0      | 9,516     | 0      | 0      | 351,362    | 0      | 0      |
| 1983          | 0                               | 0           | 0           | 0         | 0      | 9,476     | 0      | 0      | 157,519    | 0      | 0      |
| 1984          | 0                               | 0           | 0           | 0         | 0      | 11,477    | 0      | 0      | 260,624    | 0      | 0      |
| 1985          | 0                               | 0           | 0           | 0         | 0      | 12,401    | 0      | 0      | 390,696    | 0      | 0      |
| 1986          | 0                               | 0           | 0           | 0         | 0      | 13,928    | 0      | 0      | 379,275    | 0      | 0      |
| 1987          | 0                               | 0           | 0           | 0         | 0      | 16,167    | 0      | 0      | 417,285    | 0      | 0      |
| 1988          | 0                               | 0           | 0           | 0         | 0      | 18,904    | 0      | 0      | 488,265    | 0      | 0      |
| 1989          | 0                               | 0           | 0           | 0         | 0      | 21,719    | 0      | 0      | 589,962    | 0      | 0      |
| 1990          | 0                               | 0           | 0           | 0         | 4,836  | 22,139    | 0      | 0      | 764,380    | 0      | 0      |
| 1991          | 0                               | 0           | 0           | 0         | 988    | 3,846     | 0      | 0      | 257,835    | 0      | 0      |
| 1992          | 0                               | 0           | 0           | 0         | 0      | 14,812    | 0      | 0      | 420,849    | 0      | 0      |
| 1993          | 0                               | 0           | 6           | 0         | 0      | 13,787    | 0      | 0      | 437,470    | 0      | 0      |
| 1994          | 0                               | 0           | 0           | 0         | 0      | 14,919    | 0      | 0      | 475,900    | 0      | 0      |
| 1995          | 0                               | 0           | 0           | 0         | 0      | 17,747    | 0      | 0      | 139,882    | 0      | 0      |
| 1996          | 0                               | 0           | 0           | 0         | 0      | 18,448    | 0      | 0      | 267,618    | 0      | 0      |
| 1997          | 0                               | 0           | 11          | 0         | 0      | 22,842    | 10,240 | 16,890 | 271,379    | 0      | 0      |
| 1998          | 0                               | 0           | 7           | 0         | 0      | 19,782    | 0      | 0      | 187,277    | 0      | 0      |
| 1999          | 0                               | 0           | 0           | 0         | 0      | 28,813    | 0      | 0      | 327,001    | 0      | 0      |
| 2000          | 0                               | 0           | 0           | 0         | 2,200  | 31,085    | 0      | 0      | 632,991    | 0      | 0      |
| 2001          | 0                               | 0           | 0           | 0         | 0      | 30,701    | 0      | 0      | 444,764    | 0      | 0      |
| 2002          | 0                               | 0           | 0           | 0         | 3,148  | 42,080    | 0      | 0      | 723,605    | 0      | 8,601  |
| 2003          | 0                               | 116         | 0           | 6,768     | 3,150  | 44,967    | 0      | 0      | 678,964    | 0      | 0      |
| 2004          | 0                               | 841         | 0           | 0         | 4,047  | 47,463    | 0      | 0      | 797,294    | 0      | 0      |
| 2005          | 0                               | 692         | 0           | 0         | 0      | 36,747    | 0      | 0      | 538,839    | 0      | 0      |
| 2006          | 3,471                           | 807         | 0           | 0         | 0      | 40,017    | 0      | 0      | 574,679    | 0      | 0      |
| 2007          | 3,758                           | 177         | 0           | 0         | 1,890  | 45,919    | 0      | 0      | 711,831    | 0      | 0      |
| 2008          | 3,863                           | 1,042       | 0           | 0         | 1,980  | 42,878    | 0      | 0      | 485,156    | 0      | 0      |
| 2009          | 4,499                           | 1,898       | 0           | 0         | 3,150  | 38,784    | 0      | 0      | 589,294    | 0      | 0      |
| 2010          | 2,555                           | 5,685       | 0           | 0         | 3,150  | 31,288    | 0      | 0      | 376,877    | 0      | 0      |
| 2011          | 1,213                           | 9,290       | 0           | 0         | 2,520  | 31,445    | 0      | 0      | 375,921    | 0      | 0      |
| 2012          | 0                               | 11,010      | 24          | 0         | 3,150  | 36,153    | 0      | 0      | 553,244    | 0      | 0      |
| 2013          | 0                               | 9,445       | 47          | 0         | 2,242  | 44,126    | 0      | 0      | 565,849    | 0      | 0      |
| 2014          | 0                               | 5,627       | 0           | 0         | 907    | 36,737    | 0      | 0      | 324,478    | 0      | 0      |
| 2015          | 3,760                           | 6,620       | 0           | 0         | 1,890  | 55,120    | 0      | 0      | 600,985    | 23,235 | 0      |
| 2016          | 940                             | 9,440       | 0           | 0         | 1,890  | 55,120    | 0      | 0      | 600,985    | 21,235 | 0      |
| 2017          | 320                             | 10,060      | 0           | 0         | 1,890  | 55,120    | 0      | 0      | 600,985    | 19,235 | 0      |
| 2018          | 0                               | 10,380      | 0           | 0         | 1,890  | 55,120    | 0      | 0      | 600,985    | 19,235 | 0      |
| 2019          | 680                             | 9,700       | 0           | 0         | 1,890  | 39,200    | 0      | 0      | 516,188    | 0      | 0      |
| 2020          | 680                             | 9,700       | 0           | 0         | 1,890  | 39,500    | 0      | 0      | 516,188    | 0      | 0      |
| 2021          | 680                             | 9,700       | 0           | 0         | 1,890  | 40,300    | 0      | 0      | 516,188    | 0      | 0      |
| 2022          | 680                             | 9,700       | 0           | 0         | 1,890  | 41,200    | 0      | 0      | 516,188    | 0      | 0      |
| 2023          | 680                             | 9,700       | 0           | 0         | 1,890  | 42,000    | 0      | 0      | 516,188    | 0      | 0      |
| 2024          | 680                             | 9,700       | 0           | 0         | 1,890  | 42,900    | 0      | 0      | 516,188    | 0      | 0      |
| 2025          | 680                             | 9,700       | 0           | 0         | 1,890  | 43,700    | 0      | 0      | 516,188    | 0      | 0      |
| 2026          | 680                             | 9,700       | 0           | 0         | 1,890  | 44,200    | 0      | 0      | 516,188    | 0      | 0      |
| 2027          | 680                             | 9,700       | 0           | 0         | 1,890  | 44,800    | 0      | 0      | 516,188    | 0      | 0      |
| 2028          | 680                             | 9,700       | 0           | 0         | 1,890  | 45,300    | 0      | 0      | 516,188    | 0      | 0      |
| 2029          | 680                             | 9,700       | 0           | 0         | 1,890  | 46,000    | 0      | 0      | 516,188    | 0      | 0      |
| 2030          | 680                             | 9,700       | 0           | 0         | 1,890  | 46,600    | 0      | 0      | 516,188    | 0      | 0      |
| 2031          | 680                             | 9,700       | 0           | 0         | 1,890  | 47,500    | 0      | 0      | 516,188    | 0      | 0      |
| 2032          | 680                             | 9,700       | 0           | 0         | 1,890  | 48,300    | 0      | 0      | 516,188    | 0      | 0      |
| 2033          | 680                             | 9,700       | 0           | 0         | 1,890  | 49,100    | 0      | 0      | 516,188    | 0      | 0      |
| 2034          | 680                             | 9,700       | 0           | 0         | 1,890  | 49,900    | 0      | 0      | 516,188    | 0      | 0      |
| 2035          | 680                             | 9,700       | 0           | 0         | 1,890  | 50,700    | 0      | 0      | 516,188    | 0      | 0      |
| TOTAL         | 35,939                          | 248,030     | 254         | 6,768     | 77,048 | 1,859,771 | 10,240 | 16,890 | 28,250,237 | 82,940 | 8,601  |

(g) Deliveries exclude 6,171 AF of 1982 exchange water.

**TABLE B-5A Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 17 of 17

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |         |                |         |       |               |           |       |                |               | TOTAL       | GRAND TOTAL |  |  |
|---------------|---------------------------------|---------|----------------|---------|-------|---------------|-----------|-------|----------------|---------------|-------------|-------------|--|--|
|               | WEST BRANCH (continued)         |         | COASTAL BRANCH |         |       |               |           |       |                |               |             |             |  |  |
|               | Reach 30                        |         | Reach 31A      |         |       |               | Reach 33A |       |                |               |             |             |  |  |
|               | SBC FC&WCD                      | VCFCD   | AVEKWA         | CLWA    | DRWD  | KCWA<br>(M&I) | (AG)      | CK    | SLOC<br>FC&WCD | SBC<br>FC&WCD |             |             |  |  |
| [183]         | [184]                           | [185]   | [186]          | [187]   | [188] | [189]         | [190]     | [191] | [192]          | [193]         | [194]       |             |  |  |
| 1962          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 8,906       |             |  |  |
| 1963          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 12,645      |             |  |  |
| 1964          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 20,911      |             |  |  |
| 1965          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 34,026      |             |  |  |
| 1966          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 54,913      |             |  |  |
| 1967          | 0                               | 0       | 0              | 0       | 0     | 0             | 0         | 0     | 0              | 0             | 56,763      |             |  |  |
| 1968          | 0                               | 0       | 0              | 7,382   | 0     | 0             | 71,657    | 0     | 0              | 0             | 294,457     |             |  |  |
| 1969          | 0                               | 0       | 0              | 9,970   | 0     | 0             | 52,094    | 0     | 0              | 0             | 195,705     | 268,104     |  |  |
| 1970          | 0                               | 0       | 0              | 11,739  | 0     | 0             | 71,910    | 0     | 0              | 0             | 276,211     | 369,459     |  |  |
| 1971          | 0                               | 0       | 0              | 12,490  | 0     | 0             | 98,481    | 0     | 0              | 0             | 553,081     | 654,442     |  |  |
| 1972          | 0                               | 0       | 0              | 13,905  | 0     | 0             | 107,850   | 0     | 0              | 0             | 895,006     | 1,037,770   |  |  |
| 1973          | 0                               | 0       | 0              | 9,418   | 0     | 0             | 69,227    | 0     | 0              | 0             | 638,930     | 737,532     |  |  |
| 1974          | 0                               | 0       | 0              | 9,700   | 0     | 0             | 68,474    | 0     | 0              | 0             | 783,984     | 878,947     |  |  |
| 1975          | 0                               | 0       | 0              | 10,700  | 0     | 0             | 74,516    | 0     | 0              | 0             | 1,129,728   | 1,230,830   |  |  |
| 1976          | 0                               | 0       | 0              | 11,700  | 0     | 0             | 78,358    | 0     | 0              | 0             | 1,245,662   | 1,380,124   |  |  |
| 1977          | 0                               | 0       | 0              | 5,075   | 0     | 0             | 35,504    | 0     | 0              | 0             | 465,442     | 582,381     |  |  |
| 1978          | 0                               | 0       | 0              | 11,362  | 0     | 0             | 81,242    | 0     | 0              | 0             | 1,339,268   | 1,458,733   |  |  |
| 1979          | 0                               | 0       | 0              | 19,138  | 0     | 0             | 104,017   | 0     | 0              | 0             | 1,537,075   | 1,666,457   |  |  |
| 1980          | 0                               | 0       | 0              | 13,882  | 0     | 0             | 97,497    | 0     | 0              | 0             | 1,413,363   | 1,536,456   |  |  |
| 1981          | 0                               | 0       | 0              | 12,700  | 0     | 0             | 97,054    | 0     | 0              | 0             | 1,779,479   | 1,918,563   |  |  |
| 1982          | 0                               | 0       | 0              | 12,700  | 0     | 0             | 83,076    | 0     | 0              | 0             | 1,641,571   | 1,750,862   |  |  |
| 1983          | 0                               | 0       | 0              | 12,659  | 0     | 0             | 87,859    | 0     | 0              | 0             | 1,089,626   | 1,187,156   |  |  |
| 1984          | 0                               | 0       | 0              | 12,741  | 0     | 0             | 119,098   | 0     | 0              | 0             | 1,489,814   | 1,591,416   |  |  |
| 1985          | 0                               | 0       | 0              | 12,099  | 0     | 0             | 110,124   | 0     | 0              | 0             | 1,863,544   | 1,990,295   |  |  |
| 1986          | 0                               | 0       | 0              | 13,301  | 0     | 0             | 118,298   | 0     | 0              | 0             | 1,882,290   | 1,999,155   |  |  |
| 1987          | 0                               | 0       | 0              | 11,821  | 0     | 0             | 116,259   | 0     | 0              | 0             | 1,984,570   | 2,131,608   |  |  |
| 1988          | 0                               | 0       | 0              | 11,534  | 0     | 0             | 109,435   | 0     | 0              | 0             | 2,221,538   | 2,385,122   |  |  |
| 1989          | 0                               | 0       | 0              | 14,645  | 0     | 0             | 102,156   | 0     | 0              | 0             | 2,686,838   | 2,853,747   |  |  |
| 1990          | 0                               | 0       | 0              | 6,440   | 0     | 0             | 103,362   | 0     | 0              | 0             | 2,398,121   | 2,582,151   |  |  |
| 1991          | 1,240                           | 0       | 0              | 716     | 0     | 0             | 780       | 0     | 0              | 0             | 489,489     | 549,113     |  |  |
| 1992          | 0                               | 0       | 0              | 5,887   | 0     | 0             | 73,748    | 0     | 0              | 0             | 1,374,775   | 1,471,454   |  |  |
| 1993          | 0                               | 0       | 0              | 4,157   | 0     | 0             | 90,764    | 0     | 0              | 0             | 2,173,352   | 2,315,235   |  |  |
| 1994          | 0                               | 0       | 0              | 9,422   | 0     | 200           | 77,536    | 0     | 0              | 0             | 1,727,504   | 1,861,976   |  |  |
| 1995          | 0                               | 0       | 0              | 9,486   | 0     | 0             | 85,050    | 0     | 0              | 0             | 1,926,835   | 2,031,423   |  |  |
| 1996          | 0                               | 0       | 0              | 14,052  | 0     | 0             | 100,578   | 0     | 0              | 0             | 2,429,928   | 2,543,472   |  |  |
| 1997          | 0                               | 1,850   | 0              | 4,870   | 0     | 0             | 97,020    | 0     | 1,099          | 7,439         | 2,263,966   | 2,405,444   |  |  |
| 1998          | 0                               | 1,850   | 0              | 311     | 0     | 0             | 86,879    | 0     | 3,592          | 18,618        | 1,657,381   | 1,764,963   |  |  |
| 1999          | 0                               | 1,850   | 0              | 4,086   | 0     | 0             | 92,095    | 0     | 3,743          | 20,137        | 2,755,025   | 2,898,961   |  |  |
| 2000          | 0                               | 1,850   | 0              | 8,395   | 0     | 0             | 85,215    | 0     | 3,962          | 22,741        | 3,390,079   | 3,569,072   |  |  |
| 2001          | 0                               | 1,850   | 0              | 1,238   | 0     | 0             | 63,448    | 0     | 4,283          | 18,946        | 2,034,350   | 2,175,194   |  |  |
| 2002          | 0                               | 1,850   | 0              | 2,737   | 0     | 0             | 65,055    | 0     | 4,355          | 27,636        | 2,738,943   | 2,909,555   |  |  |
| 2003          | 0                               | 1,850   | 0              | 4,001   | 0     | 0             | 65,691    | 0     | 4,453          | 26,968        | 3,151,625   | 3,327,811   |  |  |
| 2004          | 0                               | 1,203   | 0              | 3,776   | 0     | 0             | 66,498    | 0     | 4,165          | 29,705        | 3,050,652   | 3,230,590   |  |  |
| 2005          | 0                               | 1,665   | 0              | 2,709   | 4,684 | 0             | 68,190    | 0     | 4,251          | 23,344        | 3,597,829   | 3,753,874   |  |  |
| 2006          | 0                               | 1,850   | 0              | 2,735   | 0     | 0             | 85,214    | 0     | 4,209          | 23,275        | 3,526,551   | 3,693,938   |  |  |
| 2007          | 0                               | 1,110   | 0              | 6,071   | 0     | 0             | 93,954    | 49    | 3,776          | 27,740        | 3,088,763   | 3,284,475   |  |  |
| 2008          | 0                               | 1,818   | 0              | 0       | 0     | 17,059        | 68,385    | 0     | 3,402          | 18,393        | 1,978,428   | 2,152,219   |  |  |
| 2009          | 0                               | 741     | 0              | 1       | 0     | 0             | 83,255    | 0     | 3,801          | 15,452        | 2,059,805   | 2,221,501   |  |  |
| 2010          | 0                               | 925     | 0              | 768     | 2,967 | 0             | 81,047    | 276   | 3,757          | 17,775        | 2,690,242   | 2,832,658   |  |  |
| 2011          | 0                               | 1,480   | 0              | 1,746   | 200   | 0             | 86,594    | 238   | 3,819          | 21,050        | 3,508,859   | 3,664,607   |  |  |
| 2012          | 0                               | 1,203   | 33,511         | 2,404   | 0     | 0             | 50,050    | 0     | 3,944          | 19,474        | 2,730,710   | 2,886,168   |  |  |
| 2013          | 0                               | 648     | 0              | 6,128   | 0     | 0             | 82,887    | 0     | 3,681          | 18,018        | 2,023,206   | 2,224,856   |  |  |
| 2014          | 0                               | 93      | 0              | 0       | 0     | 0             | 57,745    | 15    | 7,417          | 14,817        | 1,340,185   | 1,493,780   |  |  |
| 2015          | 0                               | 1,110   | 0              | 2,000   | 0     | 0             | 55,260    | 183   | 13,580         | 27,292        | 2,287,506   | 2,479,558   |  |  |
| 2016          | 0                               | 1,110   | 0              | 2,000   | 0     | 0             | 55,260    | 183   | 13,580         | 27,292        | 2,284,308   | 2,479,618   |  |  |
| 2017          | 0                               | 1,110   | 0              | 2,000   | 0     | 0             | 55,260    | 183   | 13,580         | 27,292        | 2,284,308   | 2,479,618   |  |  |
| 2018          | 0                               | 1,110   | 0              | 2,000   | 0     | 0             | 55,260    | 183   | 13,580         | 27,292        | 2,284,308   | 2,479,618   |  |  |
| 2019          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,330   |  |  |
| 2020          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,390   |  |  |
| 2021          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,455   |  |  |
| 2022          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,526   |  |  |
| 2023          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2024          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2025          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2026          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2027          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2028          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2029          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2030          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2031          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2032          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2033          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2034          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,605   |  |  |
| 2035          | 0                               | 7,110   | 0              | 4,000   | 0     | 0             | 55,260    | 183   | 12,373         | 27,292        | 2,294,525   | 2,483,687   |  |  |
| TOTAL         | 1,240                           | 150,996 | 33,511         | 438,797 | 7,851 | 17,259        | 5,025,686 | 4,421 | 336,370        | 944,660       | 135,558,871 | 146,075,330 |  |  |

## Tables B-5A-Adj through B-31

Note: Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

**TABLE B-5A-Adj Annual Water Quantity Adjustments to Water Delivered from Each Aqueduct Reach to Each Contractor**

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| Calendar Year | (in acre-feet)      |          |         |      |           |           |           |     |        |        |       |      |        |
|---------------|---------------------|----------|---------|------|-----------|-----------|-----------|-----|--------|--------|-------|------|--------|
|               | CALIFORNIA AQUEDUCT |          |         |      |           |           |           |     |        |        |       |      |        |
|               | SAN LUIS DIVISION   |          |         |      |           |           |           |     |        |        |       |      |        |
|               | Reach 1             | Reach 3A |         |      |           |           |           |     |        |        |       |      |        |
| SCVWWD        | AVEK                | CLWA     | CLAWA   | DRWD | KCWA (AG) | MWDSC     | MWA       | PWD | SBVMWD | SGVMWD | SGPWD | SLOC | FC&WCD |
| [1]           | [2]                 | [3]      | [4]     | [5]  | [6]       | [7]       | [8]       | [9] | [10]   | [11]   | [12]  | [13] |        |
| 1962          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1963          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1964          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1965          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1966          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1967          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1968          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1969          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1970          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1971          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1972          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1973          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1974          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1975          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1976          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1977          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1978          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1979          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1980          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1981          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1982          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1983          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1984          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1985          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1986          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1987          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1988          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1989          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1990          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1991          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1992          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1993          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1994          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1995          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1996          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1997          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1998          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 1999          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2000          | 0                   | 0        | 0       | 0    | (11,135)  | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2001          | 0                   | 0        | 0       | 0    | (11,487)  | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2002          | 0                   | 0        | 0       | 0    | (9,332)   | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2003          | 0                   | 0        | 0       | 0    | (18,428)  | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2004          | 0                   | 0        | 0       | 0    | (866)     | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2005          | 0                   | 0        | 0       | 0    | (576)     | (20,082)  | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2006          | 0                   | 0        | 0       | 0    | (20,239)  | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2007          | 0                   | 0        | 0       | 0    | (9,867)   | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2008          | (8,885)             | 0        | 0       | 0    | (99,439)  | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2009          | 0                   | (5,926)  | (38)    | (1)  | (28)      | (82,636)  | (815)     | (5) | (15)   | (21)   | (4)   | (4)  | (2)    |
| 2010          | 0                   | 0        | (3,300) | 0    | 0         | (87,370)  | (177,476) | 0   | 0      | 0      | 0     | 0    | 0      |
| 2011          | 0                   | 0        | 0       | 0    | (56,909)  | (106,423) | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2012          | 0                   | 0        | 0       | 0    | (6,068)   | (60,762)  | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2013          | 0                   | 0        | 0       | 0    | 0         | (11,846)  | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2014          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2015          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2016          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2017          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2018          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2019          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2020          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2021          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2022          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2023          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2024          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2025          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2026          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2027          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2028          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2029          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2030          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2031          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2032          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2033          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2034          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| 2035          | 0                   | 0        | 0       | 0    | 0         | 0         | 0         | 0   | 0      | 0      | 0     | 0    | 0      |
| TOTAL         | (8,885)             | (5,926)  | (3,338) | (1)  | (6,672)   | (500,398) | (284,714) | (5) | (15)   | (21)   | (4)   | (4)  | (2)    |

**TABLE B-5A-Adj Annual Water Quantity Adjustments to Water Delivered from Each Aqueduct Reach to Each Contractor**

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| Calendar Year | (in acre-feet) CALIFORNIA AQUEDUCT (continued) |          |          |         |              |         |                            |           |              |         |         |      |
|---------------|--|----------|----------|---------|--------------|---------|----------------------------|-----------|--------------|---------|---------|------|
|               | SAN LUIS DIVISION (continued)                  |          |          |         |              |         | SOUTH SAN JOAQUIN DIVISION |           |              |         |         |      |
|               | Reach 3A                                       |          |          | Reach 4 |              | Reach 7 |                            | Reach 10A |              |         |         |      |
|               | SBC<br>FC&WCD                                  | SCVWWD   | TLBWSD   | VCFCD   | KCWA<br>(AG) | TLBWSD  | KCWA<br>(AG)               | TLBWSD    | AC<br>FC&WCD | ACWD    | CLWA    | DWA  |
|               | [14]   | [15]     | [16]     | [17]    | [18]         | [19]    | [20]                       | [21]      | [22]         | [23]    | [24]    | [25] |
| 1962          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1963          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1964          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1965          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1966          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1967          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1968          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1969          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1970          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1971          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1972          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1973          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1974          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1975          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1976          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1977          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1978          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1979          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1980          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1981          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1982          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1983          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1984          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1985          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1986          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1987          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1988          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1989          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1990          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1991          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1992          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1993          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1994          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1995          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1996          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1997          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1998          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 1999          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2000          | 0  | 0        | 0        | 0       | (12,806)     | 0       | (24,167)                   | (2,981)   | 0            | 0       | 0       | 0    |
| 2001          | 0  | 0        | 0        | 0       | 0            | 0       | (25,164)                   | (1,807)   | 0            | 0       | 0       | 0    |
| 2002          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2003          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2004          | 0  | 0        | (4,000)  | 0       | 0            | (6,020) | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2005          | 0  | (20,000) | (277)    | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2006          | 0  | (53,573) | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2007          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | (5,000)      | 0       | 0       | 0    |
| 2008          | 0  | (3,681)  | 0        | 0       | 0            | 0       | 0                          | (7,000)   | (10,000)     | 0       | (4,864) | 0    |
| 2009          | (19)   | (1,000)  | (49)     | (1)     | 0            | 0       | 0                          | 0         | (3,083)      | (4,950) | 0       | 0    |
| 2010          | 0  | (44,668) | (17,551) | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2011          | 0  | (49,579) | (11,096) | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2012          | 0  | 0        | (9,366)  | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2013          | 0  | 0        | (6,054)  | 0       | 0            | 0       | 0                          | (4,000)   | (4,000)      | 0       | 0       | 0    |
| 2014          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | (1,500)   | (412)        | 0       | 0       | 0    |
| 2015          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2016          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2017          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2018          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2019          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2020          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2021          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2022          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2023          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2024          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2025          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2026          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2027          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2028          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2029          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2030          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2031          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2032          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2033          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2034          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |
| 2035          | 0  | 0        | 0        | 0       | 0            | 0       | 0                          | 0         | 0            | 0       | 0       | 0    |

TOTAL (19) (172,501) (48,393) (1) (12,806) (6,020) (24,167) (28,145) (14,307) (22,495) (4,950) (4,864)

**TABLE B-5A-Adj Annual Water Quantity Adjustments to Water Delivered  
from Each Aqueduct Reach to Each Contractor**

Sheet 3 of 4

| Calendar Year | (in acre-feet)                         |           |           |           |          |          |           |           |           |         |           |           |             |          |          |
|---------------|--|-----------|-----------|-----------|----------|----------|-----------|-----------|-----------|---------|-----------|-----------|-------------|----------|----------|
|               | CALIFORNIA AQUEDUCT (continued)        |           |           |           |          |          |           |           |           |         |           |           |             |          |          |
|               | SOUTH SAN JOAQUIN DIVISION (continued) |           |           |           |          |          |           |           |           |         |           |           |             |          |          |
|               | Reach 10A                              |           |           | Reach 12E |          |          |           |           |           |         | Reach 13B |           |             |          |          |
| KCWA (AG)     | MWDSC                                  | SCVWD     | AVEK      | CLWA      | CWWD     | DWA      | KCWA (AG) | MWDSC     | SBVMWD    | SCVWD   | DRWD      | KCWA (AG) | MWDSC       | SCVWD    |          |
| [26]          | [27]                                   | [28]      | [29]      | [30]      | [31]     | [32]     | [33]      | [34]      | [35]      | [36]    | [37]      | [38]      | [39]        | [40]     |          |
| 1962          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1963          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1964          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1965          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1966          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1967          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1968          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1969          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1970          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1971          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1972          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1973          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1974          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1975          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1976          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1977          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1978          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1979          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1980          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1981          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1982          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1983          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1984          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1985          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1986          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1987          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1988          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1989          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1990          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1991          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1992          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1993          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1994          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1995          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1996          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1997          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1998          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 1999          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2000          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2001          | (1,813)                                | (31,500)  | (30,000)  | 0         | 0        | 0        | 0         | (20,800)  | 0         | 0       | 0         | (132,228) | 0           | 0        |          |
| 2002          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | (14,638)  | 0         | 0       | 0         | (22,161)  | 0           | 0        |          |
| 2003          | 0                                      | (10,000)  | 0         | 0         | 0        | 0        | 0         | (5,170)   | (5,073)   | 0       | 0         | (15,316)  | (24,523)    | 0        |          |
| 2004          | (3)                                    | (93,555)  | 0         | 0         | 0        | 0        | 0         | 0         | (17,765)  | 0       | 0         | (43,985)  | (4,813)     | 0        |          |
| 2005          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2006          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2007          | (12,469)                               | (93,966)  | (20,000)  | (11,000)  | 0        | (16,618) | (5,000)   | 0         | 0         | 0       | (257,750) | 0         | 0           | 0        |          |
| 2008          | 0                                      | (99,024)  | (10,000)  | (8,393)   | (11,000) | (3,000)  | (3,486)   | (103,683) | (8,402)   | 0       | 0         | (228,579) | (25,721)    | 0        |          |
| 2009          | (7,733)                                | (65,499)  | (27,319)  | (6,393)   | (11,000) | (3,000)  | 0         | (105,145) | (14,516)  | 0       | (6,134)   | (186,044) | 0           | 0        |          |
| 2010          | (56)                                   | 0         | 0         | 0         | (2,750)  | (8,393)  | 0         | (43,83)   | (52,413)  | 0       | 0         | (59,451)  | 0           | 0        |          |
| 2011          | 0                                      | 0         | 0         | 0         | 0        | 0        | (14,223)  | (23,419)  | 0         | 0       | 0         | (29,041)  | 0           | 0        |          |
| 2012          | 0                                      | 0         | 0         | (17,000)  | 0        | (4,000)  | (12,815)  | 0         | 0         | 0       | (6,068)   | (103,364) | 0           | 0        |          |
| 2013          | (24,626)                               | (37,544)  | (27,308)  | 0         | 0        | (16,500) | (34,355)  | (31,478)  | (1,500)   | 0       | 0         | (160,286) | (1,033)     | (17,692) |          |
| 2014          | (66,012)                               | (37,688)  | 0         | 0         | (9,198)  | (2,500)  | (108,192) | (19,298)  | 0         | 0       | (6,350)   | (199,428) | (149)       | 0        |          |
| 2015          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2016          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2017          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2018          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2019          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2020          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2021          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2022          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2023          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2024          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2025          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2026          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2027          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2028          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2029          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2030          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2031          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2032          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2033          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2034          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| 2035          | 0                                      | 0         | 0         | 0         | 0        | 0        | 0         | 0         | 0         | 0       | 0         | 0         | 0           | 0        |          |
| TOTAL         | (112,712)                              | (468,796) | (131,627) | (14,786)  | (44,948) | (37,393) | (3,486)   | (458,672) | (198,164) | (1,500) | (6,134)   | (12,418)  | (1,437,633) | (56,239) | (17,692) |

**TABLE B-5A-Adj Annual Water Quantity Adjustments to Water Delivered from Each Aqueduct Reach to Each Contractor**

(in acre-feet)

Sheet 4 of 4

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |           |           |           |           |           |                 |           |           |          |                    | GRAND TOTAL |             |
|---------------|--|-----------|-----------|-----------|-----------|-----------|-----------------|-----------|-----------|----------|--------------------|-------------|-------------|
|               | SOUTH SAN JOAQUIN DIVISION (continued) |           |           |           |           |           | MOJAVE DIVISION |           |           |          | SANTA ANA DIVISION |             |             |
|               | Reach 13B                              | Reach 14B | Reach 14C |           | Reach 15A | Reach 16A | Reach 19        | Reach 22A | Reach 22B |          | Reach 24           | Reach EBX2C |             |
|               | PWD                                    | KCWA (AG) | KCWA (AG) | MWDSC     | KCWA (AG) | KCWA (AG) | AVEK            | AVEK      | AVEK      | MWDSC    | MWDSC              | SBVMWD      |             |
|               | [41]                                   | [42]      | [43]      | [44]      | [45]      | [46]      | [47]            | [48]      | [49]      | [50]     | [51]               | [52]        | [53]        |
| 1962          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1963          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1964          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1965          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1966          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1967          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1968          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1969          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1970          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1971          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1972          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1973          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1974          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1975          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1976          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1977          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1978          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1979          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1980          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1981          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1982          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1983          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1984          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1985          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1986          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1987          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1988          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1989          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1990          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1991          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1992          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1993          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1994          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1995          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1996          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1997          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1998          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 1999          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2000          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (51,089)    |
| 2001          | 0                                      | (396)     | (242)     | 0         | 0         | 0         | 0               | 0         | (152)     | 0        | 0                  | 0           | (255,589)   |
| 2002          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (46,131)    |
| 2003          | 0                                      | 0         | 0         | (12,380)  | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (90,890)    |
| 2004          | 0                                      | 0         | 0         | (25,512)  | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (844)       |
| 2005          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (7)         |
| 2006          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (73,814)    |
| 2007          | (4,926)                                | 0         | 0         | (24,225)  | 0         | 0         | 0               | 0         | (8,751)   | (17,249) | 0                  | 0           | (486,841)   |
| 2008          | 0                                      | 0         | 0         | (37,602)  | 0         | 0         | 0               | 0         | (4,816)   | (3,679)  | 0                  | 0           | (681,260)   |
| 2009          | 0                                      | (1,706)   | (5,168)   | (54,948)  | (2,788)   | (444)     | 0               | 0         | 0         | 0        | (7,488)            | 0           | (603,933)   |
| 2010          | 0                                      | (1,867)   | (4,761)   | (32,758)  | (2,913)   | 0         | 0               | 0         | 0         | (2,891)  | 0                  | 0           | (542,451)   |
| 2011          | 0                                      | 0         | 0         | (16,065)  | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (306,755)   |
| 2012          | 0                                      | (73)      | (744)     | (10,010)  | (405)     | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (230,675)   |
| 2013          | 0                                      | (264)     | (4,691)   | (33,205)  | (406)     | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | (416,788)   |
| 2014          | 0                                      | (1,175)   | (17,925)  | (41,955)  | (1,706)   | 0         | (9,256)         | (1,440)   | 0         | 0        | 0                  | 0           | (524,184)   |
| 2015          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2016          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2017          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2018          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2019          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2020          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2021          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2022          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2023          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2024          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2025          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2026          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2027          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2028          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2029          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2030          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2031          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2032          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2033          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2034          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| 2035          | 0                                      | 0         | 0         | 0         | 0         | 0         | 0               | 0         | 0         | 0        | 0                  | 0           | 0           |
| TOTAL         | (4,926)                                | (5,481)   | (33,531)  | (288,660) | (8,218)   | (444)     | (9,256)         | (1,440)   | (152)     | (13,567) | (31,307)           | (870)       | (4,548,705) |

**TABLE B-5B Annual Water Quantities Delivered to Each Contractor**

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA         |                  |                  | SOUTH BAY AREA(a)             |                               |                                   |                  | CENTRAL COASTAL AREA          |                             |                  |
|---------------|------------------------|------------------|------------------|-------------------------------|-------------------------------|-----------------------------------|------------------|-------------------------------|-----------------------------|------------------|
|               | Napa (b) County FC&WCD | Solano County WA | Total            | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total            | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total            |
|               | [1]                    | [2]              | [3]              | [4]                           | [5]                           | [6]                               | [7]              | [8]                           | [9]                         | [10]             |
| 1962          | 0                      | 0                | 0                | 494                           | 8,412                         | 0                                 | 8,906            | 0                             | 0                           | 0                |
| 1963          | 0                      | 0                | 0                | 1,731                         | 10,914                        | 0                                 | 12,645           | 0                             | 0                           | 0                |
| 1964          | 0                      | 0                | 0                | 1,673                         | 19,238                        | 0                                 | 20,911           | 0                             | 0                           | 0                |
| 1965          | 0                      | 0                | 0                | 2,605                         | 16,407                        | 15,014                            | 34,026           | 0                             | 0                           | 0                |
| 1966          | 0                      | 0                | 0                | 5,511                         | 14,864                        | 34,538                            | 54,913           | 0                             | 0                           | 0                |
| 1967          | 0                      | 0                | 0                | 4,780                         | 12,882                        | 39,101                            | 56,763           | 0                             | 0                           | 0                |
| 1968          | 1,214                  | 0                | 1,214            | 6,133                         | 24,817                        | 70,105                            | 101,055          | 0                             | 0                           | 0                |
| 1969          | 2,687                  | 0                | 2,687            | 6,635                         | 813                           | 62,264                            | 69,712           | 0                             | 0                           | 0                |
| 1970          | 3,618                  | 0                | 3,618            | 9,249                         | 0                             | 80,311                            | 89,560           | 0                             | 0                           | 0                |
| 1971          | 2,521                  | 0                | 2,521            | 5,017                         | 5,961                         | 87,606                            | 98,584           | 0                             | 0                           | 0                |
| 1972          | 3,647                  | 0                | 3,647            | 10,489                        | 27,671                        | 100,266                           | 138,426          | 0                             | 0                           | 0                |
| 1973          | 3,792                  | 0                | 3,792            | 2,975                         | 2,521                         | 88,582                            | 94,078           | 0                             | 0                           | 0                |
| 1974          | 4,870                  | 0                | 4,870            | 1,314                         | 4                             | 88,000                            | 89,318           | 0                             | 0                           | 0                |
| 1975          | 6,840                  | 0                | 6,840            | 4,618                         | 986                           | 88,000                            | 93,604           | 0                             | 0                           | 0                |
| 1976          | 7,122                  | 0                | 7,122            | 17,131                        | 21,300                        | 88,000                            | 126,431          | 0                             | 0                           | 0                |
| 1977          | 8,226                  | 0                | 8,226            | 12,644                        | 18,840                        | 76,220                            | 107,704          | 0                             | 0                           | 0                |
| 1978          | 6,034                  | 0                | 6,034            | 10,984                        | 5,863                         | 95,727                            | 112,574          | 0                             | 0                           | 0                |
| 1979          | 6,561                  | 0                | 6,561            | 19,325                        | 10,874                        | 91,991                            | 122,190          | 0                             | 0                           | 0                |
| 1980          | 6,707                  | 0                | 6,707            | 16,790                        | 11,034                        | 88,000                            | 115,824          | 0                             | 0                           | 0                |
| 1981          | 9,001                  | 0                | 9,001            | 19,590                        | 21,917                        | 88,000                            | 129,507          | 0                             | 0                           | 0                |
| 1982          | 1,213                  | 0                | 1,213            | 13,123                        | 6,316                         | 88,000                            | 107,439          | 0                             | 0                           | 0                |
| 1983          | 2,287                  | 0                | 2,287            | 4,766                         | 3,157                         | 86,733                            | 94,656           | 0                             | 0                           | 0                |
| 1984          | 2,923                  | 0                | 2,923            | 6,784                         | 3,338                         | 88,000                            | 98,122           | 0                             | 0                           | 0                |
| 1985          | 4,039                  | 0                | 4,039            | 15,072                        | 19,016                        | 88,000                            | 122,088          | 0                             | 0                           | 0                |
| 1986          | 3,519                  | 1,400            | 4,919            | 10,609                        | 12,379                        | 88,000                            | 110,988          | 0                             | 0                           | 0                |
| 1987          | 7,693                  | 1,550            | 9,243            | 23,406                        | 25,390                        | 88,000                            | 136,796          | 0                             | 0                           | 0                |
| 1988          | 5,392                  | 9,726            | 15,118           | 25,830                        | 33,464                        | 87,961                            | 147,255          | 0                             | 0                           | 0                |
| 1989          | 6,195                  | 17,256           | 23,451           | 26,227                        | 26,042                        | 90,000                            | 142,269          | 0                             | 0                           | 0                |
| 1990          | 6,940                  | 19,131           | 26,071           | 33,034                        | 31,703                        | 92,000                            | 156,737          | 0                             | 0                           | 0                |
| 1991          | 1,380                  | 6,972            | 8,352            | 9,411                         | 12,648                        | 28,200                            | 50,259           | 0                             | 1,240                       | 1,240            |
| 1992          | 4,001                  | 14,773           | 18,774           | 14,669                        | 19,153                        | 42,839                            | 76,661           | 0                             | 0                           | 0                |
| 1993          | 5,286                  | 29,180           | 34,466           | 33,635                        | 10,271                        | 62,065                            | 105,971          | 0                             | 0                           | 0                |
| 1994          | 6,792                  | 25,256           | 32,048           | 20,542                        | 22,911                        | 57,115                            | 100,568          | 0                             | 0                           | 0                |
| 1995          | 5,182                  | 21,345           | 26,527           | 30,091                        | 17,793                        | 28,756                            | 76,640           | 0                             | 0                           | 0                |
| 1996          | 4,893                  | 29,999           | 34,892           | 18,903                        | 19,662                        | 89,850                            | 128,415          | 100                           | 0                           | 100              |
| 1997          | 4,341                  | 33,530           | 37,871           | 27,522                        | 24,063                        | 95,601                            | 147,186          | 1,199                         | 7,439                       | 8,638            |
| 1998          | 5,359                  | 29,766           | 35,125           | 17,941                        | 19,075                        | 63,410                            | 100,426          | 3,592                         | 18,618                      | 22,210           |
| 1999          | 5,304                  | 34,753           | 40,057           | 50,910                        | 37,652                        | 82,945                            | 171,507          | 3,743                         | 20,137                      | 23,880           |
| 2000          | 4,958                  | 37,015           | 41,973           | 58,617                        | 35,978                        | 101,988                           | 196,583          | 3,962                         | 22,741                      | 26,703           |
| 2001          | 9,345                  | 34,586           | 43,931           | 34,409                        | 18,004                        | 77,922                            | 130,335          | 4,283                         | 18,946                      | 23,229           |
| 2002          | 6,875                  | 38,560           | 45,435           | 53,261                        | 27,811                        | 62,186                            | 143,258          | 4,355                         | 27,636                      | 31,991           |
| 2003          | 7,646                  | 33,951           | 41,597           | 45,450                        | 36,590                        | 108,981                           | 191,021          | 4,453                         | 26,968                      | 31,421           |
| 2004          | 8,134                  | 43,002           | 51,136           | 52,364                        | 27,884                        | 59,458                            | 139,706          | 4,165                         | 29,705                      | 33,870           |
| 2005          | 7,669                  | 37,819           | 45,488           | 47,512                        | 44,599                        | 128,249                           | 220,360          | 4,251                         | 23,344                      | 27,595           |
| 2006          | 7,789                  | 35,516           | 43,305           | 54,527                        | 43,079                        | 128,210                           | 225,816          | 4,209                         | 23,275                      | 27,484           |
| 2007          | 10,957                 | 47,300           | 58,257           | 40,157                        | 24,391                        | 75,382                            | 139,930          | 3,776                         | 27,740                      | 31,516           |
| 2008          | 13,292                 | 41,320           | 54,612           | 41,186                        | 22,902                        | 59,160                            | 123,248          | 3,402                         | 18,393                      | 21,795           |
| 2009          | 10,904                 | 30,950           | 41,854           | 31,087                        | 19,496                        | 76,363                            | 126,946          | 3,801                         | 15,452                      | 19,253           |
| 2010          | 12,417                 | 30,816           | 43,233           | 47,343                        | 22,571                        | 107,871                           | 177,785          | 3,757                         | 17,775                      | 21,532           |
| 2011          | 11,314                 | 27,995           | 39,309           | 52,726                        | 36,610                        | 127,237                           | 216,573          | 3,819                         | 23,598                      | 27,417           |
| 2012          | 9,904                  | 29,350           | 39,254           | 55,239                        | 20,831                        | 63,794                            | 139,864          | 3,944                         | 19,474                      | 23,418           |
| 2013          | 12,478                 | 35,929           | 48,407           | 44,856                        | 23,640                        | 84,623                            | 153,119          | 3,681                         | 18,018                      | 21,699           |
| 2014          | 14,685                 | 27,374           | 42,059           | 33,742                        | 16,886                        | 77,483                            | 128,111          | 7,417                         | 14,817                      | 22,234           |
| 2015          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 68,431                            | 142,002          | 13,580                        | 27,292                      | 40,872           |
| 2016          | 17,415                 | 28,655           | 46,070           | 48,371                        | 25,200                        | 68,431                            | 142,002          | 13,580                        | 27,292                      | 40,872           |
| 2017          | 17,415                 | 28,655           | 46,070           | 48,371                        | 25,200                        | 68,431                            | 142,002          | 13,580                        | 27,292                      | 40,872           |
| 2018          | 17,415                 | 28,655           | 46,070           | 48,371                        | 25,200                        | 68,431                            | 142,002          | 13,580                        | 27,292                      | 40,872           |
| 2019          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2020          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2021          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2022          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2023          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2024          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2025          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2026          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2027          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2028          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2029          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2030          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2031          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2032          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2033          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2034          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| 2035          | 17,415                 | 28,654           | 46,069           | 48,371                        | 25,200                        | 60,000                            | 133,571          | 12,373                        | 27,292                      | 39,665           |
| <b>TOTAL</b>  | <b>669,661</b>         | <b>1,407,857</b> | <b>2,077,518</b> | <b>2,250,430</b>              | <b>1,529,823</b>              | <b>5,261,831</b>                  | <b>9,042,084</b> | <b>336,570</b>                | <b>948,448</b>              | <b>1,285,018</b> |

(a) For the period June 1962 through November 1967, deliveries were supplied by non-Project water.

(b) For the period 1968 through 1987, deliveries are non-Project water pumped through an interim facility.

**TABLE B-5B Annual Water Quantities Delivered to Each Contractor**

Sheet 2 of 4

| Calendar Year | (in acre-feet)              |                                      |                          |                   |                   |                 |                         |  |                   |
|---------------|-----------------------------|--------------------------------------|--------------------------|-------------------|-------------------|-----------------|-------------------------|--|-------------------|
|               | SAN JOAQUIN VALLEY AREA     |                                      |                          |                   |                   |                 |                         |  |                   |
|               | Dudley Ridge Water District | Empire West Side Irrigation District | Kern County Water Agency |                   |                   | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District | Total             |
|               | [11]                        | [12]                                 | [13]                     | [14]              | [15]              | [16]            | [17]                    | [18]                                     | [19]              |
| 1962          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1963          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1964          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1965          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1966          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1967          | 0                           | 0                                    | 0                        | 0                 | 0                 | 0               | 0                       | 0  | 0                 |
| 1968          | 26,360                      | 1,978                                | 0                        | 127,384           | 127,384           | 900             | 3,084                   | 25,100                                   | 184,806           |
| 1969          | 31,375                      | 56                                   | 0                        | 141,265           | 141,265           | 100             | 3,016                   | 9,923                                    | 185,735           |
| 1970          | 40,407                      | 3,942                                | 0                        | 204,634           | 204,634           | 0               | 5,911                   | 9,578                                    | 264,472           |
| 1971          | 41,053                      | 5,990                                | 0                        | 360,151           | 360,151           | 3,700           | 7,212                   | 122,485                                  | 540,591           |
| 1972          | 42,443                      | 5,795                                | 0                        | 490,781           | 490,781           | 1,400           | 8,166                   | 258,393                                  | 806,978           |
| 1973          | 22,057                      | 3,000                                | 0                        | 341,469           | 341,469           | 1,500           | 3,214                   | 50,464                                   | 421,704           |
| 1974          | 33,390                      | 3,000                                | 23,708                   | 323,292           | 347,000           | 1,500           | 3,471                   | 72,289                                   | 460,650           |
| 1975          | 40,555                      | 3,000                                | 14,529                   | 396,291           | 410,820           | 1,600           | 3,576                   | 86,258                                   | 545,809           |
| 1976          | 41,421                      | 3,000                                | 46,719                   | 392,531           | 439,250           | 1,600           | 4,112                   | 58,811                                   | 548,194           |
| 1977          | 11,153                      | 738                                  | 27,882                   | 163,425           | 191,307           | 1,530           | 1,472                   | 18,081                                   | 224,281           |
| 1978          | 51,747                      | 454                                  | 76,895                   | 590,452           | 667,347           | 2,070           | 3,906                   | 12,053                                   | 737,577           |
| 1979          | 38,544                      | 1,739                                | 62,997                   | 683,049           | 746,046           | 2,000           | 6,149                   | 155,121                                  | 949,599           |
| 1980          | 41,000                      | 894                                  | 45,943                   | 588,557           | 634,500           | 2,200           | 5,700                   | 75,444                                   | 759,738           |
| 1981          | 41,000                      | 5,859                                | 75,758                   | 615,642           | 691,400           | 2,300           | 4,300                   | 83,438                                   | 828,297           |
| 1982          | 41,000                      | 361                                  | 47,477                   | 697,823           | 745,300           | 1,750           | 3,838                   | 18,551                                   | 810,800           |
| 1983          | 42,900                      | 0                                    | 6,854                    | 587,653           | 594,507           | 3,550           | 3,822                   | 1,006                                    | 645,785           |
| 1984          | 45,100                      | 0                                    | 90,904                   | 769,696           | 860,600           | 3,100           | 5,700                   | 5,743                                    | 920,243           |
| 1985          | 46,251                      | 5,197                                | 88,515                   | 800,381           | 888,896           | 3,400           | 5,433                   | 109,791                                  | 1,058,968         |
| 1986          | 50,249                      | 1,170                                | 77,240                   | 829,101           | 906,341           | 3,700           | 5,107                   | 79,355                                   | 1,045,922         |
| 1987          | 46,288                      | 2,525                                | 117,174                  | 852,731           | 969,905           | 4,000           | 5,625                   | 93,084                                   | 1,121,427         |
| 1988          | 47,994                      | 3,475                                | 122,409                  | 887,111           | 1,009,520         | 4,000           | 4,412                   | 95,866                                   | 1,165,267         |
| 1989          | 57,049                      | 3,000                                | 123,896                  | 1,022,166         | 1,146,062         | 4,000           | 6,091                   | 127,950                                  | 1,344,152         |
| 1990          | 36,296                      | 1,279                                | 127,837                  | 584,611           | 712,448           | 2,000           | 2,922                   | 57,070                                   | 812,015           |
| 1991          | 927                         | 221                                  | 33,122                   | 8,965             | 42,087            | 0               | 141                     | 2,180                                    | 45,556            |
| 1992          | 23,770                      | 1,354                                | 62,326                   | 420,894           | 483,220           | 1,806           | 2,239                   | 46,728                                   | 559,117           |
| 1993          | 50,618                      | 2,741                                | 128,316                  | 1,039,614         | 1,167,930         | 4,000           | 4,858                   | 124,468                                  | 1,354,615         |
| 1994          | 28,793                      | 1,666                                | 87,139                   | 570,020           | 657,159           | 2,116           | 3,071                   | 62,362                                   | 755,167           |
| 1995          | 60,686                      | 1,631                                | 135,415                  | 1,016,114         | 1,151,529         | 4,000           | 5,169                   | 101,869                                  | 1,324,884         |
| 1996          | 56,948                      | 1,868                                | 135,654                  | 1,049,409         | 1,185,063         | 4,000           | 4,904                   | 236,875                                  | 1,489,658         |
| 1997          | 71,308                      | 0                                    | 120,708                  | 987,451           | 1,108,159         | 0               | 5,238                   | 22,369                                   | 1,207,074         |
| 1998          | 55,650                      | 542                                  | 89,765                   | 768,825           | 858,590           | 15              | 4,401                   | 20,877                                   | 939,875           |
| 1999          | 59,697                      | 3,176                                | 138,153                  | 1,039,985         | 1,178,138         | 4,000           | 4,871                   | 289,735                                  | 1,539,617         |
| 2000          | 60,539                      | 1,799                                | 40,697                   | 1,183,440         | 1,224,137         | 3,600           | 4,508                   | 201,294                                  | 1,495,877         |
| 2001          | 41,902                      | 1,360                                | 3,116                    | 651,175           | 654,291           | 1,560           | 3,592                   | 84,726                                   | 787,431           |
| 2002          | 48,915                      | 1,405                                | 12,589                   | 812,870           | 825,459           | 2,854           | 4,885                   | 96,502                                   | 980,020           |
| 2003          | 46,082                      | 1,436                                | 47,070                   | 917,160           | 964,230           | 3,692           | 4,266                   | 105,841                                  | 1,125,547         |
| 2004          | 49,080                      | 3,562                                | 126,933                  | 712,193           | 839,126           | 9,053           | 4,629                   | 90,021                                   | 995,471           |
| 2005          | 79,005                      | 3,834                                | 69,594                   | 1,328,387         | 1,397,981         | 19,806          | 4,194                   | 140,279                                  | 1,645,099         |
| 2006          | 72,080                      | 3,282                                | 98,199                   | 1,164,671         | 1,262,870         | 9,530           | 4,242                   | 108,207                                  | 1,460,211         |
| 2007          | 45,135                      | 2,084                                | 79,144                   | 949,601           | 1,028,745         | 5,746           | 3,567                   | 87,083                                   | 1,172,360         |
| 2008          | 22,174                      | 947                                  | 24,572                   | 702,099           | 726,671           | 3,836           | 1,985                   | 33,904                                   | 789,517           |
| 2009          | 21,237                      | 1,034                                | 2,912                    | 773,763           | 776,675           | 3,391           | 1,993                   | 36,836                                   | 841,166           |
| 2010          | 27,967                      | 3,259                                | 8,183                    | 689,917           | 698,100           | 4,679           | 2,906                   | 70,238                                   | 807,149           |
| 2011          | 60,560                      | 1,915                                | 37,112                   | 1,169,231         | 1,206,343         | 6,556           | 2,715                   | 63,141                                   | 1,341,230         |
| 2012          | 30,450                      | 2,242                                | 27,874                   | 782,155           | 810,029           | 7,405           | 3,208                   | 95,717                                   | 949,051           |
| 2013          | 27,046                      | 1,567                                | 33,501                   | 711,840           | 745,341           | 4,645           | 2,820                   | 48,361                                   | 829,780           |
| 2014          | 22,211                      | 467                                  | 6,731                    | 652,250           | 658,981           | 982             | 1,586                   | 9,100                                    | 693,327           |
| 2015          | 30,215                      | 1,800                                | 79,802                   | 509,836           | 589,638           | 5,583           | 3,420                   | 52,483                                   | 683,139           |
| 2016          | 30,215                      | 1,800                                | 79,802                   | 509,836           | 589,638           | 5,583           | 3,420                   | 52,483                                   | 683,139           |
| 2017          | 30,215                      | 1,800                                | 79,802                   | 509,836           | 589,638           | 5,583           | 3,420                   | 52,483                                   | 683,139           |
| 2018          | 30,215                      | 1,800                                | 79,802                   | 509,836           | 589,638           | 5,583           | 3,420                   | 52,483                                   | 683,139           |
| 2019          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2020          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2021          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2022          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2023          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2024          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2025          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2026          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2027          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2028          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2029          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2030          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2031          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2032          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2033          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2034          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| 2035          | 26,006                      | 1,800                                | 77,710                   | 511,928           | 589,638           | 5,583           | 3,420                   | 53,353                                   | 679,800           |
| <b>TOTAL</b>  | <b>2,541,374</b>            | <b>137,644</b>                       | <b>4,365,840</b>         | <b>43,294,345</b> | <b>47,660,185</b> | <b>276,415</b>  | <b>264,047</b>          | <b>4,921,300</b>                         | <b>55,800,965</b> |

**TABLE B-5B Annual Water Quantities Delivered to Each Contractor**

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                               |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|-------------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency (c) | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [20]                                   | [21]                          | [22]                            | [23]                                  | [24]                | [25]                                 | [26]                | [27]                    | [28]   | [29]  |
| 1962          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1963          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1964          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1965          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1966          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1967          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1968          | 0                                      | 7,382                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1969          | 0                                      | 9,970                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1970          | 0                                      | 11,739                        | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1971          | 0                                      | 12,490                        | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1972          | 53                                     | 13,905                        | 0                               | 464                                   | 0                   | 338                                  | 55                  | 0                       | 1,275  | 0   |
| 1973          | 20                                     | 9,418                         | 5,800                           | 389                                   | 9,000               | 290                                  | 0                   | 0                       | 32,426   | 0   |
| 1974          | 1,259                                  | 9,700                         | 6,400                           | 627                                   | 10,000              | 400                                  | 14                  | 0                       | 16,605   | 612   |
| 1975          | 8,068                                  | 10,700                        | 7,000                           | 825                                   | 11,000              | 520                                  | 0                   | 0                       | 13,865   | 5,450                                       |
| 1976          | 27,782                                 | 11,700                        | 7,600                           | 1,002                                 | 12,000              | 589                                  | 0                   | 0                       | 12,273   | 6,071                                       |
| 1977          | 11,202                                 | 5,075                         | 0                               | 1,109                                 | 0                   | 111                                  | 80                  | 0                       | 24,833   | 8,996                                       |
| 1978          | 44,137                                 | 11,362                        | 10,084                          | 1,209                                 | 15,300              | 208                                  | 0                   | 0                       | 4,055  | 7,771                                       |
| 1979          | 60,493                                 | 19,145                        | 10,063                          | 1,260                                 | 15,000              | 133                                  | 4,000               | 0                       | 18   | 290   |
| 1980          | 72,407                                 | 15,092                        | 10,884                          | 1,239                                 | 17,000              | 191                                  | 4,000               | 0                       | 0  | 1,085                                       |
| 1981          | 79,375                                 | 18,461                        | 12,105                          | 1,485                                 | 19,000              | 1,270                                | 4,000               | 0                       | 16,021   | 3,619                                       |
| 1982          | 50,291                                 | 22,216                        | 13,326                          | 1,238                                 | 21,000              | 0                                    | 10,500              | 0                       | 8,409  | 12,599                                      |
| 1983          | 32,961                                 | 22,135                        | 14,547                          | 911                                   | 23,000              | 38                                   | 0                   | 0                       | 5,994  | 734   |
| 1984          | 32,662                                 | 24,218                        | 15,768                          | 1,128                                 | 25,000              | 1                                    | 0                   | 0                       | 5,556  | 7,656                                       |
| 1985          | 37,064                                 | 24,500                        | 16,989                          | 1,422                                 | 27,000              | 0                                    | 0                   | 1,558                   | 7,390  | 5,028                                       |
| 1986          | 32,449                                 | 27,229                        | 18,210                          | 1,506                                 | 29,000              | 163                                  | 0                   | 3,096                   | 6,421  | 9,454                                       |
| 1987          | 34,089                                 | 27,988                        | 19,431                          | 1,849                                 | 31,500              | 1,085                                | 17                  | 5,379                   | 18,751   | 10,630                                      |
| 1988          | 34,079                                 | 30,438                        | 20,652                          | 2,006                                 | 34,000              | 419                                  | 9                   | 1,770                   | 21,386   | 8,948                                       |
| 1989          | 45,280                                 | 36,364                        | 21,873                          | 2,170                                 | 36,500              | 971                                  | 200                 | 9,009                   | 20,782   | 12,839                                      |
| 1990          | 47,206                                 | 28,579                        | 23,100                          | 1,827                                 | 38,100              | 1,747                                | 0                   | 8,608                   | 18,831   | 16,649                                      |
| 1991          | 9,568                                  | 4,562                         | 6,930                           | 849                                   | 11,430              | 522                                  | 3,423               | 3,914                   | 3,661  | 5,399                                       |
| 1992          | 30,265                                 | 20,699                        | 10,427                          | 519                                   | 17,197              | 251                                  | 10,686              | 4,035                   | 3,358  | 7,908                                       |
| 1993          | 43,102                                 | 23,039                        | 23,100                          | 439                                   | 38,100              | 734                                  | 11,514              | 7,761                   | 4,361  | 14,397                                      |
| 1994          | 49,153                                 | 26,441                        | 14,102                          | 785                                   | 23,257              | 1,098                                | 16,852              | 8,418                   | 9,135  | 15,230                                      |
| 1995          | 47,286                                 | 27,233                        | 23,100                          | 409                                   | 38,100              | 480                                  | 8,722               | 6,961                   | 696  | 12,922                                      |
| 1996          | 56,356                                 | 32,500                        | 62,219                          | 485                                   | 102,622             | 494                                  | 7,427               | 11,434                  | 6,064  | 15,989                                      |
| 1997          | 62,393                                 | 27,712                        | 68,340                          | 651                                   | 69,990              | 444                                  | 10,374              | 11,861                  | 9,654  | 18,175                                      |
| 1998          | 52,926                                 | 20,093                        | 85,709                          | 187                                   | 70,647              | 404                                  | 3,925               | 8,752                   | 1,878  | 9,310                                       |
| 1999          | 69,073                                 | 32,899                        | 50,480                          | 1,132                                 | 58,100              | 342                                  | 8,144               | 13,278                  | 12,874   | 21,729                                      |
| 2000          | 83,577                                 | 40,680                        | 42,323                          | 1,194                                 | 58,234              | 0                                    | 11,380              | 9,060                   | 18,399   | 15,140                                      |
| 2001          | 62,857                                 | 31,939                        | 9,100                           | 1,057                                 | 15,010              | 0                                    | 4,433               | 10,427                  | 26,488   | 2,360                                       |
| 2002          | 58,171                                 | 68,817                        | 16,755                          | 2,189                                 | 27,640              | 0                                    | 4,346               | 18,496                  | 72,069   | 24,851                                      |
| 2003          | 60,029                                 | 55,736                        | 14,443                          | 1,563                                 | 23,819              | 0                                    | 14,435              | 11,547                  | 26,113   | 21,934                                      |
| 2004          | 59,731                                 | 83,761                        | 15,465                          | 2,006                                 | 21,190              | 0                                    | 13,176              | 12,162                  | 57,030   | 12,541                                      |
| 2005          | 59,831                                 | 59,456                        | 42,519                          | 807                                   | 49,089              | 0                                    | 13,561              | 11,712                  | 31,550   | 13,984                                      |
| 2006          | 80,384                                 | 62,752                        | 121,100                         | 641                                   | 50,000              | 0                                    | 34,014              | 12,492                  | 35,331   | 16,284                                      |
| 2007          | 80,203                                 | 60,190                        | 73,228                          | 1,768                                 | 30,234              | 0                                    | 46,109              | 19,634                  | 57,116   | 4,024                                       |
| 2008          | 54,436                                 | 42,878                        | 46,791                          | 848                                   | 26,428              | 25                                   | 25,396              | 14,255                  | 35,145   | 7,212                                       |
| 2009          | 45,670                                 | 42,085                        | 46,022                          | 894                                   | 18,263              | 42                                   | 29,047              | 15,339                  | 39,346   | 11,520                                      |
| 2010          | 58,489                                 | 57,900                        | 85,592                          | 357                                   | 31,183              | 0                                    | 38,152              | 10,969                  | 49,379   | 19,180                                      |
| 2011          | 94,046                                 | 33,191                        | 90,279                          | 474                                   | 36,379              | 0                                    | 5,099               | 14,333                  | 38,126   | 23,591                                      |
| 2012          | 111,207                                | 50,473                        | 117,587                         | 624                                   | 45,101              | 0                                    | 11,244              | 18,897                  | 112,972  | 22,058                                      |
| 2013          | 51,003                                 | 61,754                        | 66,539                          | 1,368                                 | 20,791              | 0                                    | 7,483               | 10,567                  | 32,085   | 9,252                                       |
| 2014          | 27,609                                 | 36,737                        | 12,750                          | 2,176                                 | 2,989               | 115                                  | 2,871               | 7,135                   | 16,982   | 1,200                                       |
| 2015          | <b>86,906</b>                          | <b>57,120</b>                 | <b>83,010</b>                   | <b>3,480</b>                          | <b>33,450</b>       | <b>1,380</b>                         | <b>49,680</b>       | <b>12,780</b>           | <b>61,560</b>                                  | <b>17,280</b>                               |
| 2016          | 86,906                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 49,680              | 12,780                  | 61,560   | 17,280                                      |
| 2017          | 86,906                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 49,680              | 12,780                  | 61,560   | 17,280                                      |
| 2018          | 86,906                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 49,680              | 12,780                  | 61,560   | 17,280                                      |
| 2019          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2020          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2021          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2022          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2023          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2024          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2025          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2026          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2027          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2028          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2029          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2030          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2031          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2032          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2033          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2034          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| 2035          | 84,840                                 | 57,120                        | 83,010                          | 3,480                                 | 33,450              | 1,380                                | 53,880              | 12,780                  | 61,560   | 17,280                                      |
| <b>TOTAL</b>  | 3,848,146                              | 2,612,853                     | 3,121,942                       | 120,168                               | 1,961,643           | 42,405                               | 1,479,368           | 571,239                 | 2,227,463                                      | 807,501                                     |

(c) Devil's Den Water District merged with Castaic Lake Water Agency effective January 1, 1992.

**TABLE B-5B Annual Water Quantities Delivered to Each Contractor**

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (contd.) |  |  |            | FEATHER RIVER AREA |                 |                      |         | South Bay Area Future Contractor | GRAND TOTAL |
|---------------|-----------------------------------|--|--|------------|--------------------|-----------------|----------------------|---------|----------------------------------|-------------|
|               | San Gorgonio Pass Water Agency    | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total      | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total   |                                  |             |
|               | [30]                              | [31]   | [32]   | [33]       | [34]               | [35]            | [36]                 | [37]    | [38]                             | [39]        |
| 1962          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 8,906       |
| 1963          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 12,645      |
| 1964          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 20,911      |
| 1965          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 34,026      |
| 1966          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 54,913      |
| 1967          | 0                                 | 0  | 0  | 0          | 0                  | 0               | 0                    | 0       | 0                                | 56,763      |
| 1968          | 0                                 | 0  | 0  | 7,382      | 0                  | 0               | 0                    | 0       | 0                                | 294,457     |
| 1969          | 0                                 | 0  | 0  | 9,970      | 0                  | 0               | 0                    | 0       | 0                                | 268,104     |
| 1970          | 0                                 | 0  | 0  | 11,739     | 0                  | 0               | 70                   | 70      | 0                                | 369,459     |
| 1971          | 0                                 | 0  | 0  | 12,490     | 0                  | 192             | 64                   | 256     | 0                                | 654,442     |
| 1972          | 0                                 | 71,938   | 0  | 88,028     | 0                  | 186             | 505                  | 691     | 0                                | 1,037,770   |
| 1973          | 0                                 | 159,883  | 0  | 217,226    | 0                  | 53              | 679                  | 732     | 0                                | 737,532     |
| 1974          | 0                                 | 277,717  | 0  | 323,334    | 0                  | 127             | 648                  | 775     | 0                                | 878,947     |
| 1975          | 0                                 | 526,491  | 0  | 583,919    | 0                  | 253             | 405                  | 658     | 0                                | 1,230,830   |
| 1976          | 0                                 | 618,451  | 0  | 697,468    | 0                  | 527             | 382                  | 909     | 0                                | 1,380,124   |
| 1977          | 0                                 | 189,755  | 0  | 241,161    | 0                  | 706             | 303                  | 1,009   | 0                                | 582,381     |
| 1978          | 0                                 | 507,565  | 0  | 601,691    | 0                  | 579             | 278                  | 857     | 0                                | 1,458,733   |
| 1979          | 0                                 | 477,074  | 0  | 587,476    | 0                  | 302             | 329                  | 631     | 0                                | 1,666,457   |
| 1980          | 0                                 | 531,727  | 0  | 653,625    | 0                  | 267             | 295                  | 562     | 0                                | 1,536,456   |
| 1981          | 0                                 | 795,846  | 0  | 951,182    | 0                  | 221             | 355                  | 576     | 0                                | 1,918,563   |
| 1982          | 0                                 | 691,192  | 0  | 830,771    | 0                  | 334             | 305                  | 639     | 0                                | 1,750,862   |
| 1983          | 0                                 | 343,521  | 0  | 443,841    | 0                  | 325             | 262                  | 587     | 0                                | 1,187,156   |
| 1984          | 0                                 | 457,582  | 0  | 569,571    | 108                | 177             | 272                  | 557     | 0                                | 1,591,416   |
| 1985          | 0                                 | 683,625  | 0  | 804,576    | 62                 | 308             | 254                  | 624     | 0                                | 1,990,295   |
| 1986          | 0                                 | 708,840  | 0  | 836,368    | 328                | 313             | 317                  | 958     | 0                                | 1,999,155   |
| 1987          | 0                                 | 712,424  | 0  | 863,143    | 88                 | 459             | 452                  | 999     | 0                                | 2,131,608   |
| 1988          | 0                                 | 902,564  | 0  | 1,056,271  | 303                | 385             | 523                  | 1,211   | 0                                | 2,385,122   |
| 1989          | 0                                 | 1,156,698  | 0  | 1,342,686  | 403                | 300             | 486                  | 1,189   | 0                                | 2,853,747   |
| 1990          | 0                                 | 1,396,423  | 4,836  | 1,585,906  | 494                | 380             | 548                  | 1,422   | 0                                | 2,582,151   |
| 1991          | 0                                 | 391,447  | 988  | 442,693    | 265                | 328             | 420                  | 1,013   | 0                                | 549,113     |
| 1992          | 0                                 | 710,313  | 0  | 815,658    | 642                | 117             | 485                  | 1,244   | 0                                | 1,471,454   |
| 1993          | 0                                 | 652,190  | 0  | 818,737    | 746                | 256             | 444                  | 1,446   | 0                                | 2,315,235   |
| 1994          | 0                                 | 807,866  | 0  | 972,337    | 1,035              | 329             | 492                  | 1,856   | 0                                | 1,861,976   |
| 1995          | 0                                 | 436,042  | 0  | 601,951    | 910                | 203             | 308                  | 1,421   | 0                                | 2,031,423   |
| 1996          | 0                                 | 593,380  | 0  | 888,970    | 820                | 257             | 360                  | 1,437   | 0                                | 2,543,472   |
| 1997          | 0                                 | 721,810  | 1,850  | 1,003,254  | 1,005              | 185             | 231                  | 1,421   | 0                                | 2,405,444   |
| 1998          | 0                                 | 410,065  | 1,850  | 665,746    | 1,054              | 527             | 0                    | 1,581   | 0                                | 1,764,963   |
| 1999          | 0                                 | 852,617  | 1,850  | 1,122,518  | 1,096              | 286             | 0                    | 1,382   | 0                                | 2,889,961   |
| 2000          | 0                                 | 1,522,412  | 4,050  | 1,806,449  | 901                | 586             | 0                    | 1,487   | 0                                | 3,569,072   |
| 2001          | 0                                 | 1,023,169  | 1,850  | 1,188,690  | 1,065              | 513             | 0                    | 1,578   | 0                                | 2,175,194   |
| 2002          | 0                                 | 1,408,919  | 4,998  | 1,707,251  | 1,181              | 419             | 0                    | 1,600   | 0                                | 2,909,555   |
| 2003          | 116                               | 1,701,615  | 5,000  | 1,936,350  | 1,324              | 551             | 0                    | 1,875   | 0                                | 3,327,811   |
| 2004          | 841                               | 1,724,380  | 5,250  | 2,007,533  | 1,434              | 1,440           | 0                    | 2,874   | 0                                | 3,230,590   |
| 2005          | 692                               | 1,528,045  | 1,665  | 1,812,911  | 1,894              | 527             | 0                    | 2,421   | 0                                | 3,753,874   |
| 2006          | 4,278                             | 1,512,186  | 1,850  | 1,931,912  | 5,342              | 468             | 0                    | 5,810   | 0                                | 3,693,938   |
| 2007          | 3,935                             | 1,499,688  | 3,000  | 1,879,129  | 2,327              | 956             | 0                    | 3,283   | 0                                | 3,284,475   |
| 2008          | 4,905                             | 898,313  | 3,798  | 1,160,430  | 1,923              | 451             | 243                  | 2,617   | 0                                | 2,152,219   |
| 2009          | 6,397                             | 930,871  | 3,891  | 1,189,387  | 2,114              | 581             | 200                  | 2,895   | 0                                | 2,221,501   |
| 2010          | 8,240                             | 1,416,062  | 4,075  | 1,779,578  | 2,331              | 807             | 243                  | 3,381   | 0                                | 2,832,658   |
| 2011          | 10,503                            | 1,686,570  | 4,000  | 2,036,591  | 2,297              | 1,092           | 98                   | 3,487   | 0                                | 3,664,607   |
| 2012          | 11,010                            | 1,224,907  | 4,353  | 1,730,433  | 2,695              | 1,374           | 79                   | 4,148   | 0                                | 2,886,168   |
| 2013          | 9,445                             | 892,550  | 2,890  | 1,165,727  | 4,850              | 908             | 366                  | 6,124   | 0                                | 2,224,856   |
| 2014          | 5,627                             | 484,355  | 1,000  | 601,546    | 5,003              | 1,375           | 125                  | 6,503   | 0                                | 1,493,780   |
| 2015          | 10,380                            | 1,138,469  | 3,000  | 1,558,495  | 5,760              | 1,661           | 1,560                | 8,981   | 0                                | 2,479,558   |
| 2016          | 10,380                            | 1,138,469  | 3,000  | 1,558,495  | 5,760              | 1,661           | 1,619                | 9,040   | 0                                | 2,479,618   |
| 2017          | 10,380                            | 1,138,469  | 3,000  | 1,558,495  | 5,760              | 1,661           | 1,619                | 9,040   | 0                                | 2,479,618   |
| 2018          | 10,380                            | 1,138,469  | 3,000  | 1,558,495  | 5,760              | 1,661           | 1,619                | 9,040   | 0                                | 2,479,618   |
| 2019          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 1,786           | 1,619                | 9,165   | 0                                | 2,483,330   |
| 2020          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 1,846           | 1,619                | 9,225   | 0                                | 2,483,390   |
| 2021          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 1,911           | 1,619                | 9,290   | 0                                | 2,483,455   |
| 2022          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 1,982           | 1,619                | 9,361   | 0                                | 2,483,526   |
| 2023          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2024          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2025          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2026          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2027          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2028          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2029          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2030          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2031          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2032          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2033          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2034          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,061           | 1,619                | 9,440   | 0                                | 2,483,605   |
| 2035          | 10,380                            | 1,146,900  | 9,000  | 1,575,060  | 5,760              | 2,143           | 1,619                | 9,522   | 0                                | 2,483,687   |
| <b>TOTAL</b>  | 283,969                           | 60,290,264   | 228,044                                      | 77,595,005 | 167,000            | 61,974          | 45,766               | 274,740 | 0                                | 146,075,330 |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

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| Calendar Year | NORTH BAY AQUEDUCT          |                    |                       |        |   |                    |                       |        |   |                    |                           |        |
|---------------|-----------------------------|--------------------|-----------------------|--------|---|--------------------|-----------------------|--------|---|--------------------|---------------------------|--------|
|               | Barker Slough Pumping Plant |                    |                       |        | Cordelia Pumping Plant Solano County WA |                    |                       |        | Cordelia Pumping Plant Napa County FC&WCD |                    |                           |        |
|               | Initial Fill Water          | Operational Losses | Water Supply Delivery | Total  | Initial Fill Water                      | Operational Losses | Water Supply Delivery | Total  | Initial Fill Water                        | Operational Losses | Water Supply Delivery (a) | Total  |
| [1]           | [2]                         | [3]                | [4]                   | [5]    | [6]                                     | [7]                | [8]                   | [9]    | [10]                                      | [11]               | [12]                      |        |
| 1961          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1962          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1963          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1964          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1965          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1966          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1967          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 0                         | 0      |
| 1968          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 24  | (10)               | 1,214                     | 1,228  |
| 1969          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 2                  | 2,687                     | 2,689  |
| 1970          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 18                 | 3,618                     | 3,636  |
| 1971          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 4                  | 2,521                     | 2,525  |
| 1972          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (10)               | 3,647                     | 3,637  |
| 1973          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 1                  | 3,792                     | 3,793  |
| 1974          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 10                 | 4,870                     | 4,880  |
| 1975          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 10                 | 6,840                     | 6,850  |
| 1976          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 4                  | 7,122                     | 7,126  |
| 1977          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 2                  | 8,226                     | 8,228  |
| 1978          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (6)                | 6,034                     | 6,028  |
| 1979          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 1                  | 6,561                     | 6,562  |
| 1980          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (3)                | 6,707                     | 6,704  |
| 1981          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 8                  | 9,001                     | 9,009  |
| 1982          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (8)                | 1,213                     | 1,205  |
| 1983          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (12)               | 2,287                     | 2,275  |
| 1984          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (15)               | 2,923                     | 2,908  |
| 1985          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 13                 | 4,039                     | 4,052  |
| 1986          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | (4)                | 3,519                     | 3,515  |
| 1987          | 0                           | 0                  | 0                     | 0      | 0                                       | 0                  | 0                     | 0      | 0   | 0                  | 7,693                     | 7,693  |
| 1988          | 1                           | 283                | 15,118                | 15,402 | 0                                       | 0                  | 9,725                 | 9,725  | 1   | (1)                | 5,392                     | 5,392  |
| 1989          | 0                           | 758                | 23,451                | 24,209 | 0                                       | 0                  | 17,246                | 17,246 | 0   | (4)                | 6,195                     | 6,191  |
| 1990          | 0                           | 3                  | 26,071                | 26,074 | 0                                       | (634)              | 15,856                | 15,222 | 0   | 3                  | 6,940                     | 6,943  |
| 1991          | 0                           | 667                | 8,352                 | 9,019  | 0                                       | 124                | 3,855                 | 3,979  | 0   | 198                | 1,380                     | 1,578  |
| 1992          | 0                           | 1,643              | 18,774                | 20,417 | 0                                       | 0                  | 9,220                 | 9,220  | 0   | 0                  | 4,001                     | 4,001  |
| 1993          | 0                           | 1,153              | 34,466                | 35,619 | 0                                       | 0                  | 14,471                | 14,471 | 0   | 0                  | 5,286                     | 5,286  |
| 1994          | 0                           | 780                | 32,048                | 32,828 | 0                                       | (6)                | 14,913                | 14,907 | 0   | 0                  | 6,792                     | 6,792  |
| 1995          | 0                           | 908                | 26,527                | 27,435 | 0                                       | 0                  | 15,893                | 15,893 | 0   | 0                  | 5,182                     | 5,182  |
| 1996          | 0                           | 1,354              | 34,892                | 36,246 | 0                                       | 0                  | 17,069                | 17,069 | 0   | 0                  | 4,893                     | 4,893  |
| 1997          | 0                           | 1,422              | 37,871                | 39,293 | 0                                       | 0                  | 17,501                | 17,501 | 0   | 0                  | 4,341                     | 4,341  |
| 1998          | 0                           | 1,343              | 35,125                | 36,468 | 0                                       | 0                  | 18,204                | 18,204 | 0   | 0                  | 5,359                     | 5,359  |
| 1999          | 0                           | 2,522              | 40,057                | 42,579 | 0                                       | 0                  | 19,562                | 19,562 | 0   | 0                  | 5,304                     | 5,304  |
| 2000          | 0                           | 1,853              | 31,738                | 33,591 | 0                                       | 4                  | 21,525                | 21,529 | 0   | 180                | 4,958                     | 5,138  |
| 2001          | 0                           | 1,760              | 35,571                | 37,331 | 0                                       | 0                  | 19,737                | 19,737 | 0   | 0                  | 9,345                     | 9,345  |
| 2002          | 0                           | 496                | 36,846                | 37,342 | 0                                       | 0                  | 19,719                | 19,719 | 0   | 0                  | 6,875                     | 6,875  |
| 2003          | 0                           | 3,991              | 34,579                | 38,570 | 0                                       | 0                  | 16,700                | 16,700 | 0   | 0                  | 7,637                     | 7,637  |
| 2004          | 0                           | 2,181              | 40,141                | 42,322 | 0                                       | 0                  | 21,686                | 21,686 | 0   | 0                  | 8,499                     | 8,499  |
| 2005          | 0                           | 935                | 36,884                | 37,819 | 0                                       | 0                  | 19,189                | 19,189 | 0   | 0                  | 8,009                     | 8,009  |
| 2006          | 0                           | 1,005              | 35,519                | 36,524 | 0                                       | 0                  | 18,651                | 18,651 | 0   | 0                  | 8,081                     | 8,081  |
| 2007          | 0                           | 1,189              | 42,765                | 43,954 | 0                                       | 0                  | 27,793                | 27,793 | 0   | 0                  | 11,277                    | 11,277 |
| 2008          | 0                           | 845                | 46,601                | 47,446 | 0                                       | 0                  | 19,436                | 19,436 | 0   | 255                | 13,740                    | 13,995 |
| 2009          | 0                           | 537                | 35,032                | 35,569 | 0                                       | 0                  | 15,473                | 15,473 | 0   | 130                | 11,377                    | 11,507 |
| 2010          | 0                           | 809                | 38,676                | 39,485 | 0                                       | 0                  | 12,788                | 12,788 | 0   | 254                | 12,847                    | 13,101 |
| 2011          | 0                           | 803                | 34,238                | 35,041 | 0                                       | 0                  | 12,832                | 12,832 | 0   | 213                | 11,275                    | 11,488 |
| 2012          | 0                           | 686                | 34,666                | 35,352 | 0                                       | 0                  | 12,886                | 12,886 | 0   | 196                | 9,860                     | 10,056 |
| 2013          | 0                           | 1,150              | 39,085                | 40,235 | 0                                       | 0                  | 19,404                | 19,404 | 0   | 350                | 12,478                    | 12,828 |
| 2014          | 0                           | 51                 | 29,042                | 29,093 | 0                                       | 0                  | 17,473                | 17,473 | 0   | 5                  | 14,985                    | 14,990 |
| 2015          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,500                | 12,500 | 0   | 5                  | 17,415                    | 17,420 |
| 2016          | 0                           | 51                 | 46,070                | 46,121 | 0                                       | 0                  | 12,555                | 12,555 | 0   | 5                  | 17,415                    | 17,420 |
| 2017          | 0                           | 51                 | 46,070                | 46,121 | 0                                       | 0                  | 12,555                | 12,555 | 0   | 5                  | 17,415                    | 17,420 |
| 2018          | 0                           | 51                 | 46,070                | 46,121 | 0                                       | 0                  | 12,555                | 12,555 | 0   | 5                  | 17,415                    | 17,420 |
| 2019          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2020          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2021          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2022          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2023          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2024          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2025          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2026          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2027          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2028          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2029          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2030          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2031          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2032          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2033          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2034          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |
| 2035          | 0                           | 51                 | 46,069                | 46,120 | 0                                       | 0                  | 12,661                | 12,661 | 0   | 5                  | 17,415                    | 17,420 |

(a) For the period 1968 through 1987, deliveries are non-SWP water pumped through an interim facility.

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

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| Calendar | SOUTH BAY AQUEDUCT      |                    |                    |                           |                  |            |         |                    | CALIFORNIA AQUEDUCT                            |                           |              |            |           |                    |           |         |
|----------|-------------------------|--------------------|--------------------|---------------------------|------------------|------------|---------|--------------------|--|---------------------------|--------------|------------|-----------|--------------------|-----------|---------|
|          | South Bay Pumping Plant |                    |                    |                           |                  |            |         |                    | North San Joaquin Division Banks Pumping Plant |                           |              |            |           |                    |           |         |
|          | Year                    | Initial Fill Water | Operational Losses | Reservoir Storage Changes | Deliveries       |            | Total   | Initial Fill Water | Operational Losses                             | Reservoir Storage Changes | Deliveries   |            | Total     | Conservation Water | Total     |         |
|          |                         |                    |                    |                           | Water Supply (b) | Recreation |         |                    |  |                           | Water Supply | Recreation |           |                    |           |         |
|          | 1961                    | [13]               | [14]               | [15]                      | 0                | [16]       | [17]    | [18]               | [19]   | 0                         | 0            | 0          | [24]      | 0                  | [25]      | [26]    |
|          | 1962                    | 0                  | 0                  | 0                         | 0                | 0          | 0       | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1963                    | 9                  | 272                | 0                         | 8,906            | 0          | 9,187   | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1964                    | 71                 | 185                | 0                         | 12,645           | 0          | 12,901  | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1965                    | 171                | 152                | 0                         | 20,911           | 0          | 21,234  | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1966                    | 93                 | 729                | 0                         | 34,026           | 0          | 34,848  | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1967                    | 0                  | 1,746              | 0                         | 54,913           | 0          | 56,659  | 0                  | 0  | 0                         | 0            | 0          | 0         | 0                  | 0         | 0       |
|          | 1968                    | 0                  | 1,677              | 0                         | 56,763           | 0          | 58,440  | 5,746              | 1,183  | 0                         | 0            | 11,538     | 0         | 18,467             | 2,957     | 21,424  |
|          | 1969                    | 0                  | 1,847              | 0                         | 101,055          | 0          | 102,902 | 11,079             | 74,464   | 0                         | 0            | 293,243    | 0         | 378,786            | 531,275   | 910,061 |
|          | 1970                    | 3,449              | 2,668              | 0                         | 69,712           | 0          | 75,829  | 7,336              | 44,287   | 0                         | 0            | 265,417    | 0         | 317,040            | 531,185   | 848,225 |
|          | 1971                    | 16,279             | 1,086              | (5,355)                   | 89,560           | 0          | 101,570 | 23,947             | 20,767   | (5,355)                   | 0            | 365,771    | 0         | 405,130            | (12,995)  | 392,135 |
|          | 1972                    | 0                  | 1,815              | 8,854                     | 98,584           | 0          | 109,253 | 23,207             | (10,754)                                       | 8,854                     | 651,665      | 8          | 672,980   | 7,708              | 680,688   |         |
|          | 1973                    | 0                  | 3,557              | 2,273                     | 138,426          | 0          | 144,256 | 145,066            | 9,057  | (4,285)                   | 1,033,432    | 6,489      | 1,189,759 | 48,300             | 1,238,059 |         |
|          | 1974                    | 0                  | (33)               | (1,510)                   | 94,078           | 0          | 92,535  | 214,941            | (4,951)  | 2,902                     | 733,008      | 1,155      | 947,055   | 55,846             | 1,002,901 |         |
|          | 1975                    | 0                  | 1,287              | (10,056)                  | 89,318           | 0          | 80,549  | 247,894            | (11,526)                                       | (32,510)                  | 873,302      | 2,118      | 1,079,278 | 54,683             | 1,133,961 |         |
|          | 1976                    | 0                  | 320                | 8,550                     | 93,604           | 0          | 102,474 | 110,149            | (8,092)  | 16,101                    | 1,223,332    | 3,377      | 1,344,867 | (102,625)          | 1,242,242 |         |
|          | 1977                    | 0                  | 2,431              | 1,391                     | 126,431          | 141        | 130,394 | 67,834             | 5,443  | (244,124)                 | 1,372,093    | 1,745      | 1,202,991 | (442,348)          | 760,643   |         |
|          | 1978                    | 0                  | 2,866              | 2,685                     | 107,704          | 112        | 113,367 | 0                  | 39,897   | (157,543)                 | 573,146      | 1,111      | 456,611   | (13,507)           | 443,104   |         |
|          | 1979                    | 0                  | 2,165              | (11,249)                  | 112,574          | 126        | 103,616 | 67,457             | (36,898)                                       | 35,129                    | 1,451,842    | 1,177      | 1,518,707 | 752,075            | 2,270,782 |         |
|          | 1980                    | 0                  | 2,401              | 1,069                     | 122,190          | 89         | 125,749 | 17,397             | 60,958   | (32,307)                  | 1,659,265    | 1,398      | 1,706,711 | (112,053)          | 1,594,658 |         |
|          | 1981                    | 0                  | 2,627              | 13,742                    | 129,507          | 121        | 145,997 | 46,060             | 85,350   | 40,536                    | 1,908,986    | 4,974      | 2,085,906 | (931,878)          | 1,154,028 |         |
|          | 1982                    | 0                  | 2,344              | (23,928)                  | 107,439          | 129        | 85,984  | 5,979              | 61,556   | 99,897                    | 1,743,145    | 4,646      | 1,915,223 | 347,983            | 2,263,206 |         |
|          | 1983                    | 0                  | 2,151              | (22,886)                  | 94,656           | 132        | 74,053  | 6,071              | 47,022   | (310,477)                 | 1,184,282    | 7,853      | 934,751   | 835,771            | 1,770,522 |         |
|          | 1984                    | 0                  | 2,088              | 8,442                     | 98,122           | 158        | 108,810 | 38,649             | 97,143   | (108,548)                 | 1,587,936    | 5,874      | 1,621,054 | 21,875             | 1,642,929 |         |
|          | 1985                    | 0                  | 2,817              | (1,607)                   | 122,088          | 152        | 123,450 | 0                  | 110,469  | 137,783                   | 1,985,632    | 5,452      | 2,239,336 | (110,569)          | 2,128,767 |         |
|          | 1986                    | 0                  | 2,299              | (1,850)                   | 110,988          | 130        | 111,567 | 0                  | 90,799   | 20,177                    | 1,993,278    | 3,865      | 2,108,119 | 200,298            | 2,308,417 |         |
|          | 1987                    | 0                  | 2,625              | (584)                     | 136,796          | 137        | 138,974 | 0                  | 91,427   | (23,116)                  | 2,121,366    | 7,672      | 2,197,349 | (458,725)          | 1,738,624 |         |
|          | 1988                    | 0                  | 2,884              | (698)                     | 147,255          | 142        | 149,583 | 0                  | 107,249  | (35,484)                  | 2,368,793    | 4,889      | 2,445,447 | (303,583)          | 2,141,864 |         |
|          | 1989                    | 0                  | 2,673              | 3,296                     | 142,269          | 152        | 148,390 | 0                  | 117,603  | (38,058)                  | 2,829,107    | 8,135      | 2,916,787 | 421,131            | 3,337,918 |         |
|          | 1990                    | 0                  | 894                | 1,982                     | 156,537          | 168        | 159,581 | 0                  | 99,059   | (290,965)                 | 2,554,658    | 9,262      | 2,372,014 | (374,027)          | 1,997,987 |         |
|          | 1991                    | 0                  | 2,637              | (4,532)                   | 50,259           | 150        | 48,514  | 0                  | 80,106   | (79,038)                  | 539,748      | 4,879      | 545,695   | 554,904            | 1,100,599 |         |
|          | 1992                    | 0                  | 2,881              | 756                       | 76,661           | 147        | 80,445  | 0                  | 91,391   | (218,170)                 | 1,451,436    | 2,605      | 1,327,262 | 61,343             | 1,388,605 |         |
|          | 1993                    | 0                  | 1,940              | (20,051)                  | 105,971          | 143        | 88,003  | 0                  | 149,372  | (273,789)                 | 2,279,323    | 2,609      | 2,157,515 | 849,249            | 3,006,764 |         |
|          | 1994                    | 0                  | 1,981              | 1,714                     | 100,568          | 168        | 104,431 | 0                  | 148,712  | (120,985)                 | 1,828,072    | 3,803      | 1,859,602 | (324,640)          | 1,534,962 |         |
|          | 1995                    | 0                  | 1,188              | (12,333)                  | 76,640           | 146        | 65,641  | 0                  | 173,074  | (397,605)                 | 2,003,475    | 2,575      | 1,781,519 | 293,159            | 2,074,678 |         |
|          | 1996                    | 0                  | 981                | (1,990)                   | 77,215           | 150        | 76,356  | 0                  | 123,502  | 78,123                    | 2,507,143    | 3,902      | 2,712,670 | 288,576            | 3,001,246 |         |
|          | 1997                    | 0                  | 1,575              | 5,016                     | 102,186          | 155        | 108,932 | 527                | 135,106  | (98,334)                  | 2,366,152    | 2,594      | 2,406,045 | (50,000)           | 2,356,045 |         |
|          | 1998                    | 0                  | 1,551              | 3,595                     | 70,876           | 114        | 76,136  | 0                  | 91,319   | (346,039)                 | 1,728,257    | 2,107      | 1,475,644 | 120,886            | 1,596,530 |         |
|          | 1999                    | 0                  | 2,166              | 12,313                    | 100,497          | 139        | 115,115 | 0                  | 135,809  | (17,569)                  | 2,855,522    | 4,301      | 2,978,063 | (307,839)          | 2,670,224 |         |
|          | 2000                    | 0                  | 2,346              | (20,958)                  | 135,533          | 145        | 117,066 | 0                  | 115,895  | (13,232)                  | 3,474,523    | 5,182      | 3,582,368 | (15,487)           | 3,566,881 |         |
|          | 2001                    | 0                  | 2,784              | 1,301                     | 95,335           | 196        | 99,616  | 0                  | 222,144  | (17,529)                  | 1,874,096    | 1,978      | 2,080,689 | 86,928             | 2,167,617 |         |
|          | 2002                    | 0                  | 2,534              | (13,938)                  | 123,577          | 146        | 112,319 | 0                  | 225,032  | 36,404                    | 2,816,389    | 4,672      | 3,082,497 | (151,719)          | 2,930,778 |         |
|          | 2003                    | 0                  | 2,920              | (1,399)                   | 132,714          | 131        | 134,366 | 0                  | 329,699  | (49,580)                  | 3,193,449    | 11,362     | 3,484,930 | 225,348            | 3,710,278 |         |
|          | 2004                    | 0                  | 2,982              | (7,240)                   | 125,928          | 150        | 121,820 | 0                  | 83,788   | (4,079)                   | 2,979,217    | 1,337      | 3,060,263 | 103,811            | 3,164,074 |         |
|          | 2005                    | 0                  | 2,823              | (3,656)                   | 108,136          | 154        | 107,548 | 0                  | 151,931  | (163,243)                 | 3,665,023    | 1,270      | 3,654,981 | 535,754            | 4,190,735 |         |
|          | 2006                    | 0                  | 2,989              | (9,645)                   | 118,272          | 169        | 111,785 | 0                  | 67,040   | (129,767)                 | 3,571,009    | 1,208      | 3,509,490 | 43,481             | 3,552,971 |         |
|          | 2007                    | 0                  | 2,840              | 14,928                    | 134,172          | 146        | 152,086 | 0                  | 73,956   | 133,124                   | 2,736,094    | 830        | 2,944,004 | (398,297)          | 2,545,707 |         |
|          | 2008                    | 0                  | 2,215              | 880                       | 116,562          | 166        | 119,823 | 0                  | 130,066  | (3,350)                   | 1,413,730    | 1,082      | 1,541,528 | (397,949)          | 1,143,579 |         |
|          | 2009                    | 0                  | 1,999              | (1,134)                   | 116,947          | 108        | 117,920 | 0                  | 111,805  | (1,860)                   | 1,572,819    | 2,023      | 1,684,787 | 928,666            | 2,613,453 |         |
|          | 2010                    | 0                  | 1,717              | 3,436                     | 95,802           | 117        | 101,072 | 0                  | 203,757  | 51,667                    | 2,243,593    | 1,163      | 2,500,180 | 37,606             | 2,537,786 |         |
|          | 2011                    | 0                  | 1,534              | (2,332)                   | 112,952          | 122        | 112,276 | 0                  | 314,282  | (21,148)                  | 3,315,056    | 1,588      | 3,609,778 | 165,312            | 3,775,090 |         |
|          | 2012                    | 0                  | 2,025              | 5,931                     | 112,056          | 150        | 120,162 | 0                  | 143,580  | 20,504                    | 2,612,091    | 1,606      | 2,777,781 | (473,745)          | 2,304,036 |         |
|          | 2013                    | 0                  | 2,753              | (5,596)                   | 147,119          | 137        | 144,413 | 0                  | 173,145  | (6,654)                   | 1,753,537    | 1,641      | 1,921,669 | (123,957)          | 1,797,712 |         |
|          | 2014                    | 0                  | 3,196              | 0                         | 105,033          | 400        | 108,629 | 0                  | 133,093  | (8,000)                   | 921,034      | 8,660      | 1,054,787 | 153,435            | 1,208,222 |         |
|          | 2015                    | 0                  | 3,198              | 0                         | 137,002          | 400        | 140,600 | 0                  | 133,128  | 0                         | 2,424,508    | 8,660      | 2,566,296 | 129,272            | 2,699,568 |         |
|          | 2016                    | 0                  | 3,198              | 0                         | 140,200          | 400        | 143,798 | 0                  | 131,399  | (2,000)                   | 2,424,508    | 8,660      | 2,562,567 | 166,188            | 2,728,755 |         |
|          | 2017                    | 0                  | 3,351              | 0                         | 140,200          | 400        | 143,951 | 0                  | 128,602  | 61,309                    | 2,424,508    | 8,660      | 2,623,079 | 119,885            | 2,742,964 |         |
|          | 2018                    | 0                  | 3,351              | 0                         | 140,200          | 400        | 143,951 | 0                  | 128,369  | (80,817)                  | 2,424,508    | 8,660      | 2,480,720 | (194,534)          | 2,286,186 |         |
|          | 2019                    | 0                  | 3,351              | 0                         | 133,571          | 400        | 137,322 | 0                  | 128,613  | 50,179                    | 2,428,096    | 8,660      | 2,615,548 | 77,224             | 2,692,772 |         |
|          | 2020                    | 0                  | 3,351              | 0                         | 133,571          | 400        | 137,322 | 0                  | 130,380  | (12,518)                  | 2,428,096    | 8,660      | 2,565,080 | (8,687)            | 2,556,393 |         |
|          | 2021                    | 0                  | 3,351              | 0                         | 133,571          | 400        | 137,322 | 0                  | 128,769  | 10,725                    | 2,428,096    | 8,660      | 2,576,250 | (1,095)            | 2,575,155 |         |
|          | 2022                    | 0                  | 3,351              | 0                         | 133,571          | 400        | 137,322 | 0                  | 128,846  | (3,483)                   | 2,428,096    | 8,660      | 2,562,119 | (185,907)          | 2,376,212 |         |
|          | 2023                    | 0                  | 3,351              | 0                         | 133,571          | 400        | 137,322 | 0                  | 128,818  | (18,971)                  | 2,428,096    | 8,660      | 2,546,603 | 115,791            | 2,662,394 |         |
|          |                         |                    |                    |                           |                  |            |         |                    |  |                           |              |            |           |                    |           |         |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

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| Calendar Year      | (in acre-feet)                  |                           |            |           |        |                    |                            |                           |            |           |        |           |
|--------------------|---------------------------------|---------------------------|------------|-----------|--------|--------------------|----------------------------|---------------------------|------------|-----------|--------|-----------|
|                    | CALIFORNIA AQUEDUCT (continued) |                           |            |           |        |                    |                            |                           |            |           |        |           |
|                    | San Luis Division               |                           |            |           |        |                    | South San Joaquin Division |                           |            |           |        |           |
|                    | Dos Amigos Pumping Plant        |                           |            |           |        |                    | Buena Vista Pumping Plant  |                           |            |           |        |           |
| Initial Fill Water | Operational Losses              | Reservoir Storage Changes | Deliveries |           | Total  | Initial Fill Water | Operational Losses         | Reservoir Storage Changes | Deliveries |           | Total  |           |
|                    | [27]                            | [28]                      | [29]       | [30]      | [31]   | [32]               | [33]                       | [34]                      | [35]       | [36]      | [37]   | [38]      |
| 1961               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1962               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1963               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1964               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1965               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1966               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1967               | 0                               | 0                         | 0          | 0         | 0      | 0                  | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1968               | 11,079                          | 25,126                    | 0          | 189,104   | 0      | 225,309            | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1969               | 3,887                           | 9,922                     | 0          | 192,689   | 0      | 206,498            | 0                          | 0                         | 0          | 0         | 0      | 0         |
| 1970               | 7,668                           | 1,901                     | 0          | 270,300   | 0      | 279,869            | 4,779                      | 1,012                     | 0          | 3         | 0      | 5,794     |
| 1971               | 23,207                          | (12,030)                  | 0          | 545,869   | 0      | 557,046            | 7,853                      | 8,399                     | 0          | 101,512   | 0      | 117,764   |
| 1972               | 145,066                         | (6,635)                   | (6,558)    | 886,840   | 6,481  | 1,025,194          | 100,274                    | 20,044                    | (6,558)    | 223,626   | 6,481  | 343,867   |
| 1973               | 214,941                         | (6,778)                   | 1,329      | 635,716   | 1,147  | 846,355            | 204,638                    | 35,695                    | 1,329      | 311,096   | 1,147  | 553,905   |
| 1974               | 247,894                         | (16,765)                  | (15,295)   | 780,513   | 2,108  | 998,455            | 237,554                    | 19,672                    | (15,295)   | 388,949   | 2,108  | 632,988   |
| 1975               | 110,149                         | (12,144)                  | (693)      | 1,126,152 | 3,358  | 1,226,822          | 103,352                    | 26,342                    | (693)      | 672,531   | 3,358  | 804,890   |
| 1976               | 67,834                          | (456)                     | (152,171)  | 1,241,550 | 1,581  | 1,158,338          | 61,122                     | 29,428                    | (152,171)  | 785,055   | 1,581  | 725,015   |
| 1977               | 0                               | 26,359                    | (116,219)  | 463,970   | 737    | 374,847            | 0                          | 25,173                    | (116,219)  | 271,944   | 560    | 181,458   |
| 1978               | 67,457                          | 1,905                     | 79,308     | 1,335,362 | 680    | 1,484,712          | 65,027                     | 17,751                    | 121,904    | 762,043   | 674    | 967,399   |
| 1979               | 17,397                          | 33,884                    | (51,299)   | 1,530,926 | 685    | 1,531,593          | 12,302                     | 46,157                    | (51,299)   | 737,714   | 502    | 745,376   |
| 1980               | 3,159                           | 34,391                    | (272,825)  | 1,407,663 | 1,514  | 1,173,902          | 0                          | 49,025                    | (134,009)  | 778,059   | 1,262  | 694,337   |
| 1981               | 46,060                          | 36,962                    | 23,359     | 1,775,179 | 4,348  | 1,885,908          | 0                          | 38,942                    | 23,359     | 1,077,322 | 4,112  | 1,143,735 |
| 1982               | 5,979                           | 57,146                    | 116,086    | 1,631,868 | 4,205  | 1,815,284          | 0                          | 29,059                    | 117,174    | 990,863   | 4,045  | 1,141,141 |
| 1983               | 6,071                           | 63,583                    | (101,155)  | 1,085,804 | 7,475  | 1,061,778          | 0                          | 40,205                    | (101,155)  | 593,920   | 7,291  | 540,261   |
| 1984               | 38,649                          | 109,263                   | (112,744)  | 1,484,114 | 5,391  | 1,524,673          | 0                          | 38,487                    | (114,984)  | 781,955   | 5,244  | 710,702   |
| 1985               | 0                               | 86,772                    | 138,898    | 1,858,111 | 4,936  | 2,088,717          | 0                          | 42,838                    | 139,689    | 992,606   | 4,804  | 1,179,937 |
| 1986               | 0                               | 51,963                    | 19,989     | 1,877,183 | 3,426  | 1,952,561          | 0                          | 36,751                    | 37,546     | 1,014,294 | 3,285  | 1,091,876 |
| 1987               | 0                               | 64,827                    | (25,707)   | 1,978,945 | 7,121  | 2,025,186          | 0                          | 30,495                    | (25,522)   | 1,027,361 | 6,937  | 1,039,271 |
| 1988               | 0                               | 72,679                    | (34,592)   | 2,217,126 | 4,490  | 2,259,703          | 0                          | 38,804                    | (29,747)   | 1,244,196 | 4,360  | 1,257,613 |
| 1989               | 0                               | 90,090                    | (29,411)   | 2,679,845 | 7,652  | 2,748,176          | 0                          | 29,594                    | (60,826)   | 1,532,625 | 7,490  | 1,508,883 |
| 1990               | 0                               | 115,074                   | (11,323)   | 2,394,999 | 8,922  | 2,507,672          | 0                          | 46,865                    | (15,092)   | 1,769,991 | 8,879  | 1,810,643 |
| 1991               | 0                               | 92,227                    | 9,325      | 489,348   | 4,605  | 595,505            | 0                          | 39,274                    | 96,506     | 446,916   | 4,560  | 587,256   |
| 1992               | 0                               | 118,796                   | (225,603)  | 1,372,536 | 2,079  | 1,267,808          | 0                          | 28,138                    | (98,271)   | 920,978   | 1,995  | 852,840   |
| 1993               | 0                               | 136,432                   | (220,537)  | 2,170,494 | 1,864  | 2,088,253          | 0                          | 14,186                    | (128,363)  | 908,200   | 1,676  | 795,699   |
| 1994               | 0                               | 152,414                   | (78,957)   | 1,724,433 | 3,098  | 1,800,988          | 0                          | 35,083                    | (88,211)   | 1,107,122 | 2,918  | 1,056,912 |
| 1995               | 0                               | 137,937                   | (12,473)   | 1,921,666 | 1,711  | 2,048,841          | 0                          | 33,963                    | (16,431)   | 706,742   | 1,669  | 725,943   |
| 1996               | 0                               | 45,591                    | 14,927     | 2,425,024 | 2,998  | 2,488,540          | 0                          | 31,304                    | 15,438     | 988,612   | 2,928  | 1,038,282 |
| 1997               | 527                             | 107,033                   | (66,814)   | 2,247,628 | 2,090  | 2,290,464          | 0                          | 42,670                    | 40,852     | 1,054,461 | 2,076  | 1,140,059 |
| 1998               | 0                               | 95,185                    | (338,076)  | 1,664,080 | 1,589  | 1,422,778          | 0                          | 41,910                    | (106,487)  | 753,731   | 1,585  | 690,739   |
| 1999               | 0                               | 95,262                    | (2,778)    | 2,750,154 | 3,285  | 2,845,923          | 0                          | 48,502                    | (2,807)    | 1,131,826 | 3,279  | 1,180,800 |
| 2000               | 0                               | 134,231                   | 7,726      | 3,273,337 | 4,222  | 3,419,516          | 0                          | 37,514                    | 7,726      | 1,814,685 | 4,216  | 1,864,141 |
| 2001               | 0                               | 150,830                   | (18,830)   | 1,615,776 | 1,218  | 1,748,994          | 0                          | 31,361                    | (18,830)   | 1,318,835 | 1,211  | 1,332,577 |
| 2002               | 0                               | 92,905                    | 50,342     | 2,628,462 | 3,968  | 2,775,677          | 0                          | 41,565                    | 50,342     | 1,831,874 | 3,961  | 1,927,742 |
| 2003               | 0                               | 85,360                    | (48,181)   | 2,893,333 | 10,656 | 2,941,168          | 0                          | 43,352                    | (48,181)   | 1,909,192 | 10,645 | 1,915,008 |
| 2004               | 0                               | 25,865                    | 3,161      | 2,807,825 | 652    | 2,837,503          | 0                          | 41,551                    | 3,161      | 2,102,371 | 649    | 2,147,732 |
| 2005               | 0                               | 62,569                    | (159,678)  | 3,423,490 | 581    | 3,326,962          | 0                          | 35,019                    | (159,678)  | 1,846,180 | 559    | 1,722,080 |
| 2006               | 0                               | (12,341)                  | (120,122)  | 3,501,308 | 504    | 3,369,349          | 0                          | 30,271                    | (120,122)  | 2,077,130 | 504    | 1,987,783 |
| 2007               | 0                               | 47,736                    | 118,196    | 2,419,032 | 312    | 2,585,276          | 0                          | 43,400                    | 118,196    | 2,002,793 | 305    | 2,164,694 |
| 2008               | 0                               | 103,375                   | (4,230)    | 1,296,068 | 361    | 1,395,574          | 0                          | 39,056                    | (4,230)    | 1,275,174 | 327    | 1,310,327 |
| 2009               | 0                               | 76,206                    | (726)      | 1,318,452 | 1,367  | 1,395,299          | 0                          | 32,900                    | (726)      | 1,217,847 | 1,295  | 1,251,316 |
| 2010               | 0                               | 76,447                    | 48,231     | 2,307,963 | 636    | 2,433,277          | 0                          | 43,377                    | 48,231     | 1,505,105 | 603    | 1,597,316 |
| 2011               | 0                               | 66,937                    | (18,816)   | 3,343,960 | 870    | 3,392,951          | 0                          | 39,914                    | (18,816)   | 1,820,268 | 742    | 1,842,108 |
| 2012               | 0                               | 113,586                   | 14,573     | 2,542,296 | 942    | 2,671,397          | 0                          | 95,029                    | 14,573     | 1,672,315 | 938    | 1,782,855 |
| 2013               | 0                               | 174,857                   | (1,058)    | 1,549,818 | 836    | 1,724,453          | 0                          | 105,771                   | (1,058)    | 1,275,698 | 795    | 1,381,206 |
| 2014               | 0                               | 73,493                    | (8,000)    | 623,298   | 7,210  | 696,001            | 0                          | 44,031                    | (8,000)    | 796,630   | 7,010  | 839,671   |
| 2015               | 0                               | 73,490                    | 0          | 2,282,786 | 7,210  | 2,363,486          | 0                          | 44,028                    | 0          | 1,680,634 | 7,010  | 1,731,672 |
| 2016               | 0                               | 73,491                    | (2,000)    | 2,279,588 | 7,210  | 2,358,289          | 0                          | 44,029                    | (2,000)    | 1,680,634 | 7,010  | 1,729,673 |
| 2017               | 0                               | 70,586                    | 61,309     | 2,279,588 | 7,210  | 2,418,693          | 0                          | 41,124                    | 61,309     | 1,680,634 | 7,010  | 1,790,077 |
| 2018               | 0                               | 70,740                    | (80,817)   | 2,279,588 | 7,210  | 2,276,721          | 0                          | 41,278                    | (80,817)   | 1,680,634 | 7,010  | 1,648,105 |
| 2019               | 0                               | 70,564                    | 50,179     | 2,289,934 | 7,210  | 2,417,887          | 0                          | 41,102                    | 50,179     | 1,644,359 | 7,010  | 1,742,650 |
| 2020               | 0                               | 70,628                    | (366)      | 2,289,934 | 7,210  | 2,367,406          | 0                          | 41,166                    | (366)      | 1,644,659 | 7,010  | 1,692,469 |
| 2021               | 0                               | 70,711                    | 10,725     | 2,289,934 | 7,210  | 2,378,580          | 0                          | 41,249                    | 10,725     | 1,645,459 | 7,010  | 1,704,443 |
| 2022               | 0                               | 70,705                    | (3,483)    | 2,289,934 | 7,210  | 2,364,366          | 0                          | 41,243                    | (3,483)    | 1,646,359 | 7,010  | 1,691,129 |
| 2023               | 0                               | 70,696                    | (18,971)   | 2,289,934 | 7,210  | 2,348,869          | 0                          | 41,234                    | (18,971)   | 1,647,159 | 7,010  | 1,676,432 |
| 2024               | 0                               | 70,575                    | 11,289     | 2,289,934 | 7,210  | 2,379,008          | 0                          | 41,113                    | 11,289     | 1,648,059 | 7,010  | 1,707,471 |
| 2025               | 0                               | 70,638                    | (12,518)   | 2,289,934 | 7,210  | 2,355,264          | 0                          | 41,176                    | (12,518)   | 1,648,859 | 7,010  | 1,684,527 |
| 2026               | 0                               | 70,650                    | 24,308     | 2,289,934 | 7,210  | 2,392,102          | 0                          | 41,188                    | 24,308     | 1,649,359 | 7,010  | 1,721,865 |
| 2027               | 0                               | 70,563                    | (17,799)   | 2,289,934 | 7,210  | 2,349,908          | 0                          | 41,101                    | (17,799)   | 1,649,959 | 7,010  | 1,680,271 |
| 2028               | 0                               | 70,703                    | 12,291     | 2,289,934 | 7,210  | 2,380,138          | 0                          | 41,241                    | 12,291     | 1,650,459 | 7,010  | 1,711,001 |
| 2029               | 0                               | 70,630                    | (9,046)    | 2,289,934 | 7,210  | 2,358,728          | 0                          | 41,168                    | (9,046)    | 1,651,159 | 7,010  | 1,690,291 |
| 2030               | 0                               | 70,694                    | 20,756     | 2,289,934 | 7,210  | 2,388,594          | 0                          | 41,232                    | 20,756     | 1,651,759 | 7,010  | 1,720,757 |
| 2031               | 0                               | 70,566                    | (97,726)   | 2,289,934 | 7,210  | 2,269,984          | 0                          | 41,104                    | (97,726)   | 1,652,659 | 7,010  | 1,603,047 |
| 2032               | 0                               | 70,168                    | 84,999     | 2,289,934 | 7,210  | 2,452,311          | 0                          | 40,706                    | 84,999     | 1,653,459 | 7,010  | 1,786,174 |
| 2033               | 0                               | 70,373                    | (94,652)   | 2,289,934 | 7,210  | 2,272,865          | 0                          | 40,911                    | (94,652)   | 1,654,259 | 7,010  | 1,607,528 |
| 2034               | 0                               | 69,865                    | 69,593     | 2,289,934 | 7,210  | 2,436,602          | 0                          | 40,403                    | 69,593     | 1,655,059 | 7,010  | 1,772,065 |
| 2035               | 0                               | 69,205                    | (242,659)  | 2,289,934 | 7,210  | 2,123,690          | 0                          | 39,743                    | (242,659)  | 1,655,859 | 7      |           |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

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| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |                    |                           |            |        |           |                    |                    |                           |            |        |           |
|---------------|--|--------------------|---------------------------|------------|--------|-----------|--------------------|--------------------|---------------------------|------------|--------|-----------|
|               | South San Joaquin Division (continued) |                    |                           |            |        |           |                    |                    |                           |            |        |           |
|               | Teerink Pumping Plant                  |                    |                           |            |        |           |                    |                    | Chrisman Pumping Plant    |            |        |           |
|               | Initial Fill Water                     | Operational Losses | Reservoir Storage Changes | Deliveries |        | Total     | Initial Fill Water | Operational Losses | Reservoir Storage Changes | Deliveries |        | Total     |
|               | [39]                                   | [40]               | [41]                      | [42]       | [43]   | [44]      | [45]               | [46]               | [47]                      | [48]       | [49]   | [50]      |
| 1961          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1962          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1963          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1964          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1965          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1966          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1967          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1968          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1969          | 0                                      | 0                  | 0                         | 0          | 0      | 0         | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1970          | 198                                    | 2                  | 0                         | 0          | 0      | 200       | 0                  | 0                  | 0                         | 0          | 0      | 0         |
| 1971          | 7,533                                  | (112)              | 0                         | 3,552      | 0      | 10,973    | 7,366              | (159)              | 0                         | 0          | 0      | 7,207     |
| 1972          | 100,274                                | 12,765             | (6,558)                   | 84,955     | 6,481  | 197,917   | 100,274            | 13,160             | (6,558)                   | 78,891     | 6,481  | 192,248   |
| 1973          | 204,638                                | 21,543             | 1,329                     | 229,685    | 1,147  | 458,342   | 204,638            | 32,414             | 1,329                     | 209,769    | 1,147  | 449,297   |
| 1974          | 237,554                                | 11,843             | (15,295)                  | 336,198    | 2,108  | 572,408   | 237,554            | 17,655             | (15,295)                  | 318,198    | 2,108  | 560,220   |
| 1975          | 103,352                                | 19,763             | (693)                     | 621,706    | 3,358  | 747,486   | 103,352            | 25,326             | (693)                     | 586,286    | 3,358  | 717,629   |
| 1976          | 61,122                                 | 18,552             | (152,171)                 | 740,486    | 1,581  | 669,570   | 61,122             | 21,468             | (152,171)                 | 700,935    | 1,581  | 632,935   |
| 1977          | 0                                      | 16,415             | (116,219)                 | 246,349    | 560    | 147,105   | 0                  | 15,698             | (116,219)                 | 240,191    | 560    | 140,230   |
| 1978          | 65,027                                 | 28,820             | 121,904                   | 631,121    | 674    | 847,546   | 65,027             | 26,705             | 121,904                   | 599,973    | 674    | 814,283   |
| 1979          | 12,302                                 | 50,663             | (51,299)                  | 625,561    | 502    | 637,729   | 12,302             | 50,580             | (51,299)                  | 566,959    | 502    | 599,044   |
| 1980          | 0                                      | 48,825             | (134,009)                 | 696,405    | 1,262  | 612,483   | 0                  | 58,085             | (134,009)                 | 658,588    | 1,262  | 583,926   |
| 1981          | 0                                      | 51,600             | 23,359                    | 998,307    | 4,112  | 1,077,378 | 0                  | 48,844             | 23,359                    | 959,274    | 4,112  | 1,035,589 |
| 1982          | 0                                      | 44,353             | 117,332                   | 878,486    | 4,045  | 1,044,216 | 0                  | 33,541             | 117,277                   | 830,704    | 4,045  | 985,567   |
| 1983          | 0                                      | 43,961             | (101,155)                 | 487,915    | 7,291  | 438,012   | 0                  | 34,698             | (101,155)                 | 450,489    | 7,291  | 391,323   |
| 1984          | 0                                      | 45,999             | (115,088)                 | 632,262    | 5,244  | 568,417   | 0                  | 33,132             | (115,092)                 | 582,414    | 5,244  | 505,698   |
| 1985          | 0                                      | 50,106             | 139,973                   | 854,684    | 4,804  | 1,049,567 | 0                  | 54,831             | 139,954                   | 810,606    | 4,804  | 1,010,195 |
| 1986          | 0                                      | 38,747             | 37,546                    | 882,300    | 3,285  | 961,878   | 0                  | 41,421             | 37,546                    | 839,839    | 3,285  | 922,091   |
| 1987          | 0                                      | 47,815             | (25,522)                  | 897,905    | 6,937  | 927,135   | 0                  | 33,195             | (25,522)                  | 863,157    | 6,937  | 877,767   |
| 1988          | 0                                      | 53,815             | (29,747)                  | 1,097,643  | 4,360  | 1,126,071 | 0                  | 39,775             | (29,747)                  | 1,055,649  | 4,360  | 1,070,037 |
| 1989          | 0                                      | 49,088             | (60,826)                  | 1,382,599  | 7,490  | 1,378,351 | 0                  | 42,307             | (60,826)                  | 1,339,358  | 7,490  | 1,328,329 |
| 1990          | 0                                      | 66,868             | (15,092)                  | 1,627,246  | 8,879  | 1,687,901 | 0                  | 56,663             | (15,092)                  | 1,590,893  | 8,879  | 1,641,343 |
| 1991          | 0                                      | 40,564             | 105,176                   | 446,148    | 4,560  | 596,448   | 0                  | 34,016             | 105,176                   | 446,148    | 4,560  | 589,900   |
| 1992          | 0                                      | 31,820             | (92,123)                  | 844,376    | 1,995  | 786,068   | 0                  | 34,477             | (92,123)                  | 820,133    | 1,995  | 764,482   |
| 1993          | 0                                      | 27,158             | (127,738)                 | 799,143    | 1,676  | 700,239   | 0                  | 28,614             | (127,738)                 | 771,146    | 1,676  | 673,698   |
| 1994          | 0                                      | 50,802             | (88,211)                  | 1,007,214  | 2,918  | 972,723   | 0                  | 57,203             | (88,211)                  | 977,703    | 2,918  | 949,613   |
| 1995          | 0                                      | 48,705             | (16,431)                  | 586,829    | 1,669  | 620,772   | 0                  | 36,309             | (16,431)                  | 560,695    | 1,669  | 582,242   |
| 1996          | 0                                      | 58,437             | 15,438                    | 836,819    | 2,928  | 913,622   | 0                  | 43,710             | 15,438                    | 800,633    | 2,928  | 862,709   |
| 1997          | 0                                      | 73,656             | 40,852                    | 918,124    | 2,076  | 1,034,708 | 0                  | 62,275             | 40,852                    | 881,843    | 2,076  | 987,046   |
| 1998          | 0                                      | 61,137             | (106,487)                 | 656,796    | 1,585  | 613,031   | 0                  | 47,523             | (106,487)                 | 628,084    | 1,585  | 570,705   |
| 1999          | 0                                      | 77,334             | (2,807)                   | 1,011,608  | 3,279  | 1,089,414 | 0                  | 55,514             | (2,807)                   | 974,807    | 3,279  | 1,030,793 |
| 2000          | 0                                      | 87,084             | 7,726                     | 1,691,120  | 4,216  | 1,790,146 | 0                  | 49,690             | 7,726                     | 1,651,057  | 4,216  | 1,712,689 |
| 2001          | 0                                      | 71,588             | (18,830)                  | 1,233,862  | 1,211  | 1,287,831 | 0                  | 54,742             | (18,830)                  | 1,202,670  | 1,211  | 1,239,793 |
| 2002          | 0                                      | 108,309            | 50,342                    | 1,740,813  | 3,961  | 1,903,425 | 0                  | 69,443             | 50,342                    | 1,699,261  | 3,961  | 1,823,007 |
| 2003          | 0                                      | 106,973            | (48,181)                  | 1,825,617  | 10,645 | 1,895,054 | 0                  | 57,291             | (48,181)                  | 1,789,015  | 10,645 | 1,808,770 |
| 2004          | 0                                      | 122,559            | 3,161                     | 2,032,528  | 649    | 2,158,897 | 0                  | 60,847             | 3,161                     | 1,992,344  | 649    | 2,057,001 |
| 2005          | 0                                      | 99,523             | (159,678)                 | 1,751,799  | 559    | 1,692,203 | 0                  | 53,502             | (159,678)                 | 1,711,929  | 559    | 1,606,312 |
| 2006          | 0                                      | 128,022            | (120,122)                 | 1,967,163  | 504    | 1,975,567 | 0                  | 46,463             | (120,122)                 | 1,920,919  | 504    | 1,847,764 |
| 2007          | 0                                      | 139,502            | 118,196                   | 1,910,800  | 305    | 2,168,803 | 0                  | 59,454             | 118,196                   | 1,863,410  | 305    | 2,041,365 |
| 2008          | 0                                      | 97,209             | (4,230)                   | 1,201,345  | 327    | 1,294,651 | 0                  | 51,709             | (4,230)                   | 1,168,316  | 327    | 1,216,122 |
| 2009          | 0                                      | 88,574             | (726)                     | 1,169,477  | 1,295  | 1,258,620 | 0                  | 43,229             | (726)                     | 1,146,258  | 1,295  | 1,190,056 |
| 2010          | 0                                      | 92,345             | 48,231                    | 1,409,122  | 603    | 1,550,301 | 0                  | 59,808             | 48,231                    | 1,389,990  | 603    | 1,498,632 |
| 2011          | 0                                      | 114,286            | (18,816)                  | 1,699,956  | 742    | 1,792,168 | 0                  | 67,210             | (18,816)                  | 1,653,798  | 742    | 1,702,934 |
| 2012          | 0                                      | 114,502            | 14,573                    | 1,537,522  | 938    | 1,667,535 | 0                  | 70,999             | 14,573                    | 1,510,007  | 938    | 1,596,517 |
| 2013          | 0                                      | 116,975            | (1,058)                   | 1,190,711  | 795    | 1,307,423 | 0                  | 69,572             | (1,058)                   | 1,162,970  | 795    | 1,232,279 |
| 2014          | 0                                      | 40,401             | (8,000)                   | 671,279    | 7,010  | 710,690   | 0                  | 40,151             | (8,000)                   | 624,705    | 7,010  | 663,866   |
| 2015          | 0                                      | 40,398             | 0                         | 1,584,134  | 7,010  | 1,631,542 | 0                  | 40,148             | 0                         | 1,555,981  | 7,010  | 1,603,139 |
| 2016          | 0                                      | 40,399             | (2,000)                   | 1,584,134  | 7,010  | 1,629,543 | 0                  | 40,149             | (2,000)                   | 1,555,981  | 7,010  | 1,601,140 |
| 2017          | 0                                      | 37,494             | 61,309                    | 1,584,134  | 7,010  | 1,689,947 | 0                  | 37,244             | 61,309                    | 1,555,981  | 7,010  | 1,661,544 |
| 2018          | 0                                      | 37,648             | (80,817)                  | 1,584,134  | 7,010  | 1,547,975 | 0                  | 37,398             | (80,817)                  | 1,555,981  | 7,010  | 1,519,572 |
| 2019          | 0                                      | 37,472             | 50,179                    | 1,566,859  | 7,010  | 1,661,520 | 0                  | 37,222             | 50,179                    | 1,539,706  | 7,010  | 1,634,117 |
| 2020          | 0                                      | 37,536             | (366)                     | 1,567,159  | 7,010  | 1,611,339 | 0                  | 37,286             | (366)                     | 1,540,006  | 7,010  | 1,583,936 |
| 2021          | 0                                      | 37,619             | 10,725                    | 1,567,959  | 7,010  | 1,623,313 | 0                  | 37,369             | 10,725                    | 1,540,806  | 7,010  | 1,595,910 |
| 2022          | 0                                      | 37,613             | (3,483)                   | 1,568,859  | 7,010  | 1,609,999 | 0                  | 37,363             | (3,483)                   | 1,541,706  | 7,010  | 1,582,596 |
| 2023          | 0                                      | 37,604             | (18,971)                  | 1,569,659  | 7,010  | 1,595,302 | 0                  | 37,354             | (18,971)                  | 1,542,506  | 7,010  | 1,567,899 |
| 2024          | 0                                      | 37,483             | 11,289                    | 1,570,559  | 7,010  | 1,626,341 | 0                  | 37,233             | 11,289                    | 1,543,406  | 7,010  | 1,598,938 |
| 2025          | 0                                      | 37,546             | (12,518)                  | 1,571,359  | 7,010  | 1,603,397 | 0                  | 37,296             | (12,518)                  | 1,544,206  | 7,010  | 1,575,994 |
| 2026          | 0                                      | 37,558             | 24,308                    | 1,571,859  | 7,010  | 1,640,735 | 0                  | 37,308             | 24,308                    | 1,544,706  | 7,010  | 1,613,332 |
| 2027          | 0                                      | 37,471             | (17,799)                  | 1,572,459  | 7,010  | 1,599,141 | 0                  | 37,221             | (17,799)                  | 1,545,306  | 7,010  | 1,571,738 |
| 2028          | 0                                      | 37,611             | 12,291                    | 1,572,959  | 7,010  | 1,629,871 | 0                  | 37,361             | 12,291                    | 1,545,806  | 7,010  | 1,602,468 |
| 2029          | 0                                      | 37,538             | (9,046)                   | 1,573,659  | 7,010  | 1,609,161 | 0                  | 37,288             | (9,046)                   | 1,546,506  | 7,010  | 1,581,768 |
| 2030          | 0                                      | 37,602             | 20,756                    | 1,574,259  | 7,010  | 1,639,627 | 0                  | 37,352             | 20,756                    | 1,547,106  | 7,010  | 1,612,224 |
| 2031          | 0                                      | 37,474             | (97,726)                  | 1,575,159  | 7,010  | 1,521,917 | 0                  | 37,224             | (97,726)                  | 1,548,006  | 7,010  | 1,494,514 |
| 2032          | 0                                      | 37,076             | 84,999                    | 1,575,959  | 7,010  | 1,705,044 | 0                  | 36,826             | 84,999                    | 1,548,806  | 7,010  | 1,677,641 |
| 2033          | 0                                      | 37,281             | (94,652)                  | 1,576,759  | 7,010  | 1,526,398 | 0                  | 37,031             | (94,652)                  | 1,549,606  | 7,010  | 1,498,995 |
| 2034          | 0                                      | 36,773             | 69,593                    | 1,577,559  | 7,010  | 1,690,935 | 0                  | 36,523             | 69,593                    | 1,550,406  | 7,010  | 1,663,532 |
| 2035          | 0                                      | 36,113             | (242,659)                 | 1,578,359  | 7,010  | 1,378,823 | 0                  | 35,863             | (242,659)                 | 1,551,206  | 7,010  | 1,351,420 |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

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| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued) |                            |                                 |            |        |           |                          |                            |                                 |            |       |           |
|------------------|---------------------------------|----------------------------|---------------------------------|------------|--------|-----------|--------------------------|----------------------------|---------------------------------|------------|-------|-----------|
|                  | Tehachapi Division              |                            |                                 |            |        |           | Mojave Division          |                            |                                 |            |       |           |
|                  | Edmonston Pumping Plant         |                            |                                 |            |        |           | Alamo Powerplant         |                            |                                 |            |       |           |
|                  | Initial<br>Fill<br>Water        | Oper-<br>ational<br>Losses | Reservoir<br>Storage<br>Changes | Deliveries |        | Total     | Initial<br>Fill<br>Water | Oper-<br>ational<br>Losses | Reservoir<br>Storage<br>Changes | Deliveries |       | Total     |
| 1961             | [51]                            | [52]                       | [53]                            | [54]       | [55]   | [56]      | [57]                     | [58]                       | [59]                            | [60]       | [61]  | [62]      |
| 1962             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1963             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1964             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1965             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1966             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1967             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1968             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1969             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1970             | 0                               | 0                          | 0                               | 0          | 0      | 0         | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1971             | 5,446                           | 8                          | 0                               | 0          | 0      | 5,454     | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1972             | 100,274                         | 16,067                     | (6,558)                         | 74,123     | 6,481  | 190,387   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1973             | 204,638                         | 34,051                     | 1,329                           | 207,808    | 1,147  | 448,973   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1974             | 237,554                         | 18,181                     | (15,295)                        | 313,634    | 2,108  | 556,182   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1975             | 103,352                         | 20,183                     | (693)                           | 573,219    | 3,358  | 699,419   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1976             | 61,122                          | 21,096                     | (152,171)                       | 685,768    | 1,581  | 617,396   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1977             | 0                               | 18,424                     | (116,219)                       | 236,086    | 560    | 138,851   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1978             | 65,027                          | 20,887                     | 121,904                         | 590,329    | 674    | 798,821   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1979             | 12,302                          | 46,332                     | (51,299)                        | 568,338    | 502    | 576,175   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1980             | 0                               | 52,967                     | (134,009)                       | 639,743    | 1,262  | 559,963   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1981             | 0                               | 40,602                     | 23,359                          | 938,482    | 4,112  | 1,006,555 | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1982             | 0                               | 37,244                     | 117,296                         | 812,206    | 4,045  | 970,791   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1983             | 0                               | 40,690                     | (101,155)                       | 431,182    | 7,291  | 378,008   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1984             | 0                               | 42,112                     | (115,214)                       | 556,830    | 5,244  | 488,972   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1985             | 0                               | 45,265                     | 139,988                         | 792,477    | 4,804  | 982,534   | 0                        | 0                          | 0                               | 0          | 0     | 0         |
| 1986             | 0                               | 36,918                     | 37,546                          | 823,067    | 3,285  | 900,816   | 0                        | 14,735                     | 12,258                          | 429,864    | 1,508 | 458,365   |
| 1987             | 0                               | 29,580                     | (25,522)                        | 851,322    | 6,937  | 862,317   | 0                        | 11,665                     | (15,270)                        | 417,870    | 1,239 | 415,504   |
| 1988             | 0                               | 42,017                     | (29,747)                        | 1,044,737  | 4,360  | 1,061,367 | 0                        | 21,696                     | 1,101                           | 537,568    | 971   | 561,336   |
| 1989             | 0                               | 32,270                     | (60,826)                        | 1,328,041  | 7,490  | 1,306,975 | 0                        | 4,686                      | (20,363)                        | 716,360    | 1,407 | 702,090   |
| 1990             | 0                               | 42,198                     | (15,092)                        | 1,579,466  | 8,879  | 1,615,451 | 0                        | 8,898                      | (5,916)                         | 788,111    | 1,388 | 792,481   |
| 1991             | 0                               | 33,999                     | 105,176                         | 441,217    | 4,560  | 584,952   | 0                        | 17,908                     | 34,422                          | 177,308    | 394   | 230,032   |
| 1992             | 0                               | 23,121                     | (92,123)                        | 809,771    | 1,995  | 742,764   | 0                        | 14,873                     | (17,115)                        | 374,110    | 423   | 372,291   |
| 1993             | 0                               | 11,946                     | (127,738)                       | 759,485    | 1,676  | 645,369   | 0                        | 9,304                      | (3,455)                         | 308,222    | 443   | 314,514   |
| 1994             | 0                               | 40,808                     | (88,211)                        | 960,815    | 2,918  | 916,330   | 0                        | 21,837                     | 3,395                           | 469,996    | 430   | 495,658   |
| 1995             | 0                               | 36,001                     | (16,431)                        | 542,465    | 1,669  | 563,704   | 0                        | 14,139                     | (30,761)                        | 384,836    | 427   | 368,641   |
| 1996             | 0                               | 37,357                     | 15,438                          | 779,918    | 2,928  | 835,641   | 0                        | 7,247                      | (11,410)                        | 493,852    | 565   | 490,254   |
| 1997             | 0                               | 51,475                     | 40,852                          | 860,798    | 2,076  | 955,201   | 0                        | 20,725                     | 38,960                          | 537,586    | 507   | 597,778   |
| 1998             | 0                               | 48,601                     | (106,487)                       | 607,301    | 1,585  | 551,000   | 0                        | 21,456                     | 16,361                          | 398,385    | 363   | 436,565   |
| 1999             | 0                               | 52,726                     | (2,807)                         | 947,420    | 3,279  | 1,000,618 | 0                        | 26,644                     | (8,486)                         | 589,756    | 396   | 608,310   |
| 2000             | 0                               | 43,072                     | 7,726                           | 1,627,123  | 4,216  | 1,682,137 | 0                        | 8,983                      | (10,472)                        | 958,997    | 449   | 957,957   |
| 2001             | 0                               | 39,544                     | (18,830)                        | 1,187,300  | 1,211  | 1,209,225 | 0                        | 14,526                     | 3,478                           | 709,985    | 452   | 728,441   |
| 2002             | 0                               | 60,037                     | 50,342                          | 1,680,514  | 3,961  | 1,794,854 | 0                        | 15,190                     | 8,398                           | 901,230    | 490   | 925,308   |
| 2003             | 0                               | 53,320                     | (48,181)                        | 1,771,048  | 10,645 | 1,786,832 | 0                        | 13,676                     | (20,787)                        | 1,035,349  | 355   | 1,028,593 |
| 2004             | 0                               | 57,962                     | 3,161                           | 1,970,391  | 649    | 2,032,163 | 0                        | 15,581                     | 17,207                          | 1,120,384  | 171   | 1,153,343 |
| 2005             | 0                               | 40,949                     | (159,678)                       | 1,693,409  | 559    | 1,575,239 | 0                        | 2,561                      | (50,014)                        | 1,116,158  | 84    | 1,068,789 |
| 2006             | 0                               | 52,291                     | (120,122)                       | 1,898,070  | 504    | 1,830,743 | 0                        | 13,170                     | 8,653                           | 1,281,524  | 98    | 1,303,445 |
| 2007             | 0                               | 65,423                     | 118,196                         | 1,836,977  | 305    | 2,020,901 | 0                        | 17,957                     | (5,091)                         | 1,076,227  | 103   | 1,089,196 |
| 2008             | 0                               | 50,959                     | (4,230)                         | 1,146,056  | 327    | 1,193,112 | 0                        | 14,592                     | 5,383                           | 614,224    | 80    | 634,279   |
| 2009             | 0                               | 59,186                     | (726)                           | 1,125,654  | 1,295  | 1,185,409 | 0                        | 25,599                     | (5,619)                         | 493,685    | 1,100 | 514,765   |
| 2010             | 0                               | 61,816                     | 48,231                          | 1,369,128  | 603    | 1,479,778 | 0                        | 33,660                     | 6,964                           | 956,888    | 363   | 997,875   |
| 2011             | 0                               | 64,370                     | (18,816)                        | 1,632,033  | 742    | 1,678,329 | 0                        | 34,783                     | (1,405)                         | 1,220,667  | 500   | 1,254,545 |
| 2012             | 0                               | 65,684                     | 14,573                          | 1,486,712  | 938    | 1,567,907 | 0                        | 22,523                     | (229)                           | 892,938    | 550   | 915,782   |
| 2013             | 0                               | 69,789                     | (1,058)                         | 1,141,511  | 795    | 1,211,037 | 0                        | 20,563                     | 3,278                           | 528,595    | 501   | 552,937   |
| 2014             | 0                               | 38,601                     | (8,000)                         | 570,851    | 7,010  | 608,462   | 0                        | 21,145                     | 0                               | 208,635    | 1,630 | 231,410   |
| 2015             | 0                               | 38,598                     | 0                               | 1,536,615  | 7,010  | 1,582,223 | 0                        | 21,145                     | 0                               | 854,155    | 1,630 | 876,930   |
| 2016             | 0                               | 38,599                     | (2,000)                         | 1,536,615  | 7,010  | 1,580,224 | 0                        | 21,145                     | 0                               | 856,155    | 1,630 | 878,930   |
| 2017             | 0                               | 35,694                     | 61,309                          | 1,536,615  | 7,010  | 1,640,628 | 0                        | 20,895                     | 33,266                          | 858,155    | 1,630 | 913,946   |
| 2018             | 0                               | 35,848                     | (80,817)                        | 1,536,615  | 7,010  | 1,498,656 | 0                        | 20,998                     | (50,078)                        | 858,155    | 1,630 | 830,705   |
| 2019             | 0                               | 35,672                     | 50,179                          | 1,519,140  | 7,010  | 1,612,001 | 0                        | 20,924                     | 31,508                          | 954,752    | 1,630 | 1,008,814 |
| 2020             | 0                               | 35,736                     | (366)                           | 1,519,440  | 7,010  | 1,561,820 | 0                        | 20,947                     | (3,398)                         | 954,752    | 1,630 | 973,931   |
| 2021             | 0                               | 35,819                     | 10,725                          | 1,520,240  | 7,010  | 1,573,794 | 0                        | 20,946                     | (1,117)                         | 954,752    | 1,630 | 976,211   |
| 2022             | 0                               | 35,813                     | (3,483)                         | 1,521,140  | 7,010  | 1,560,480 | 0                        | 20,940                     | (3,434)                         | 954,752    | 1,630 | 973,888   |
| 2023             | 0                               | 35,804                     | (18,971)                        | 1,521,940  | 7,010  | 1,545,783 | 0                        | 20,939                     | (18,638)                        | 954,752    | 1,630 | 958,683   |
| 2024             | 0                               | 35,683                     | 11,289                          | 1,522,840  | 7,010  | 1,576,822 | 0                        | 20,881                     | 21,309                          | 954,752    | 1,630 | 998,572   |
| 2025             | 0                               | 35,746                     | (12,518)                        | 1,523,640  | 7,010  | 1,553,878 | 0                        | 20,965                     | (11,624)                        | 954,752    | 1,630 | 965,723   |
| 2026             | 0                               | 35,758                     | 24,308                          | 1,524,140  | 7,010  | 1,591,216 | 0                        | 20,930                     | 13,030                          | 954,752    | 1,630 | 990,342   |
| 2027             | 0                               | 35,671                     | (17,799)                        | 1,524,740  | 7,010  | 1,549,622 | 0                        | 20,861                     | (6,161)                         | 954,752    | 1,630 | 971,082   |
| 2028             | 0                               | 35,811                     | 12,291                          | 1,525,240  | 7,010  | 1,580,352 | 0                        | 20,961                     | 4,006                           | 954,752    | 1,630 | 981,349   |
| 2029             | 0                               | 35,738                     | (9,046)                         | 1,525,940  | 7,010  | 1,559,642 | 0                        | 20,955                     | (913)                           | 954,752    | 1,630 | 976,424   |
| 2030             | 0                               | 35,802                     | 20,756                          | 1,526,540  | 7,010  | 1,590,108 | 0                        | 20,930                     | 8,528                           | 954,752    | 1,630 | 985,840   |
| 2031             | 0                               | 35,674                     | (97,726)                        | 1,527,440  | 7,010  | 1,472,398 | 0                        | 20,956                     | (31,057)                        | 954,752    | 1,630 | 946,281   |
| 2032             | 0                               | 35,276                     | 84,999                          | 1,528,240  | 7,010  | 1,655,525 | 0                        | 20,865                     | 43,953                          | 954,752    | 1,630 | 1,021,200 |
| 2033             | 0                               | 35,481                     | (94,652)                        | 1,529,040  | 7,010  | 1,476,879 | 0                        | 20,854                     | (37,929)                        | 954,752    | 1,630 | 939,307   |
| 2034             | 0                               | 34,973                     | 69,593                          | 1,529,840  | 7,010  | 1,641,416 | 0                        | 20,769                     | 28,588                          | 954,752    | 1,630 | 1,005,739 |
| 2035             | 0                               | 34,313                     | (242,659)                       | 1,530,640  | 7,010  | 1,329,304 | 0                        | 20,892                     | (49,219)                        | 954,752    | 1,630 | 928,055   |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

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| Calendar Year | (in acre-feet)                  |                    |                           |                           |            |           |                          |                    |                           |              |            |           |
|---------------|---------------------------------|--------------------|---------------------------|---------------------------|------------|-----------|--------------------------|--------------------|---------------------------|--------------|------------|-----------|
|               | CALIFORNIA AQUEDUCT (continued) |                    |                           |                           |            |           |                          |                    |                           |              |            |           |
|               | Mojave Division (continued)     |                    |                           |                           |            |           |                          |                    |                           |              |            |           |
|               | Initial Fill Water              | Operational Losses | Reservoir Storage Changes | Pearblossom Pumping Plant |            |           | Mojave Siphon Powerplant |                    |                           | Deliveries   |            |           |
| Year          | Initial Fill Water              | Operational Losses | Reservoir Storage Changes | Water Supply              | Recreation | Total     | Initial Fill Water       | Operational Losses | Reservoir Storage Changes | Water Supply | Recreation | Total     |
| 1961          | [63]                            | 0                  | 0                         | [65]                      | 0          | [66]      | 0                        | 0                  | [68]                      | 0            | 0          | [74]      |
| 1962          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1963          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1964          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1965          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1966          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1967          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1968          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1969          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1970          | 0                               | 0                  | 0                         | 0                         | 0          | 0         | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1971          | 21                              | 0                  | 0                         | 0                         | 0          | 21        | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1972          | 35,243                          | 5,282              | (153)                     | 1,794                     | 0          | 42,166    | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1973          | 80,177                          | 21,522             | (2,700)                   | 52,201                    | 72         | 151,272   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1974          | 76,694                          | 10,847             | (11,149)                  | 102,839                   | 44         | 179,275   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1975          | 10,000                          | 2,364              | (8,397)                   | 190,351                   | 70         | 194,388   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1976          | 4,168                           | 7,040              | (16,055)                  | 236,713                   | 152        | 232,018   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1977          | 0                               | 11,398             | (17,534)                  | 102,326                   | 580        | 96,770    | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1978          | 19,922                          | 5,696              | 69,130                    | 374,845                   | 498        | 470,091   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1979          | 12,302                          | 6,836              | (32,518)                  | 362,114                   | 502        | 349,236   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1980          | 0                               | 16,200             | 6,159                     | 401,214                   | 781        | 424,354   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1981          | 0                               | 4,992              | (36,278)                  | 574,573                   | 933        | 544,220   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1982          | 0                               | 5,251              | 55,232                    | 401,037                   | 1,919      | 463,439   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1983          | 0                               | 11,745             | (26,847)                  | 231,188                   | 1,180      | 217,266   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1984          | 0                               | 18,228             | 23,230                    | 252,066                   | 1,494      | 295,018   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1985          | 0                               | 25,292             | (2,815)                   | 350,758                   | 1,076      | 374,311   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1986          | 0                               | 30,876             | 12,258                    | 394,156                   | 1,508      | 438,798   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1987          | 0                               | 27,552             | (15,270)                  | 377,531                   | 1,239      | 391,052   | 0                        | 0                  | 0                         | 0            | 0          | 0         |
| 1988          | 0                               | 32,209             | 1,101                     | 501,300                   | 971        | 535,581   | 0                        | 1,977              | 1,101                     | 501,291      | 971        | 505,340   |
| 1989          | 0                               | 31,500             | (20,363)                  | 661,189                   | 1,407      | 673,733   | 0                        | 29,110             | (20,363)                  | 661,100      | 1,407      | 671,254   |
| 1990          | 0                               | 32,672             | (5,916)                   | 730,560                   | 1,388      | 758,704   | 0                        | 23,692             | (5,916)                   | 730,550      | 1,388      | 749,714   |
| 1991          | 0                               | 15,209             | 34,774                    | 163,913                   | 394        | 214,290   | 0                        | (543)              | 34,774                    | 163,913      | 394        | 198,538   |
| 1992          | 0                               | 13,989             | (17,451)                  | 338,249                   | 423        | 335,210   | 0                        | (13,193)           | (17,451)                  | 338,207      | 423        | 307,986   |
| 1993          | 0                               | 9,779              | (3,455)                   | 255,117                   | 443        | 261,884   | 0                        | (11,922)           | (3,455)                   | 255,117      | 443        | 240,183   |
| 1994          | 0                               | 150                | 3,395                     | 409,928                   | 430        | 413,903   | 0                        | 1,601              | 3,395                     | 395,294      | 430        | 400,720   |
| 1995          | 0                               | 6,820              | (29,282)                  | 328,882                   | 427        | 306,847   | 0                        | 10,458             | (29,282)                  | 321,387      | 427        | 302,990   |
| 1996          | 0                               | 9,514              | (11,410)                  | 424,252                   | 565        | 422,921   | 0                        | (5,577)            | (11,410)                  | 418,141      | 565        | 401,719   |
| 1997          | 0                               | (1,124)            | 38,960                    | 461,563                   | 507        | 449,906   | 0                        | 5,171              | 38,960                    | 452,525      | 507        | 497,163   |
| 1998          | 0                               | (2,087)            | 16,361                    | 334,965                   | 363        | 349,602   | 0                        | 11,496             | 16,361                    | 332,385      | 363        | 360,605   |
| 1999          | 0                               | (1,154)            | (8,486)                   | 505,624                   | 396        | 496,380   | 0                        | 11,065             | (8,486)                   | 498,919      | 396        | 501,894   |
| 2000          | 0                               | (23,296)           | (10,472)                  | 864,999                   | 449        | 831,680   | 0                        | 4,896              | (10,472)                  | 854,980      | 449        | 849,853   |
| 2001          | 0                               | (9,304)            | 3,478                     | 635,316                   | 452        | 629,942   | 0                        | 7,403              | 3,478                     | 632,420      | 452        | 643,753   |
| 2002          | 0                               | 3,810              | 8,398                     | 823,690                   | 490        | 836,388   | 0                        | 9,300              | 8,398                     | 820,217      | 490        | 838,405   |
| 2003          | 0                               | 2,814              | (20,787)                  | 962,488                   | 355        | 944,870   | 0                        | (6,586)            | (20,787)                  | 941,713      | 355        | 914,695   |
| 2004          | 0                               | (15,558)           | 17,207                    | 1,047,521                 | 171        | 1,049,341 | 0                        | 5,034              | 17,207                    | 1,035,315    | 171        | 1,057,727 |
| 2005          | 0                               | (18,967)           | (50,014)                  | 1,043,564                 | 84         | 974,667   | 0                        | 827                | (50,014)                  | 1,025,453    | 84         | 976,350   |
| 2006          | 0                               | (21,986)           | 8,653                     | 1,187,627                 | 98         | 1,174,392 | 0                        | (845)              | 8,653                     | 1,154,634    | 98         | 1,162,540 |
| 2007          | 0                               | (13,055)           | (5,091)                   | 975,802                   | 103        | 957,759   | 0                        | 3,060              | (5,091)                   | 956,281      | 103        | 954,353   |
| 2008          | 0                               | 723                | 5,383                     | 550,143                   | 80         | 556,329   | 0                        | 8,380              | 5,383                     | 534,480      | 80         | 548,323   |
| 2009          | 0                               | 3,807              | (5,619)                   | 431,289                   | 1,100      | 430,577   | 0                        | 10,520             | (5,619)                   | 411,075      | 1,100      | 417,076   |
| 2010          | 0                               | 3,489              | 6,964                     | 886,249                   | 363        | 897,065   | 0                        | 11,912             | 6,964                     | 858,609      | 363        | 877,848   |
| 2011          | 0                               | 7,953              | (1,405)                   | 1,114,556                 | 500        | 1,121,604 | 0                        | 13,506             | (1,405)                   | 1,080,734    | 500        | 1,093,335 |
| 2012          | 0                               | 3,499              | (229)                     | 797,563                   | 550        | 801,383   | 0                        | 3,492              | (229)                     | 775,600      | 550        | 779,413   |
| 2013          | 0                               | 6,273              | 3,278                     | 466,091                   | 501        | 476,143   | 0                        | 12,172             | 3,278                     | 460,089      | 501        | 476,040   |
| 2014          | 0                               | 15,795             | 0                         | 181,994                   | 1,430      | 199,219   | 0                        | 12,325             | 0                         | 181,601      | 1,430      | 195,356   |
| 2015          | 0                               | 15,795             | 0                         | 750,308                   | 1,430      | 767,533   | 0                        | 12,325             | 0                         | 731,644      | 1,430      | 745,399   |
| 2016          | 0                               | 15,795             | 0                         | 752,308                   | 1,430      | 769,533   | 0                        | 12,325             | 0                         | 731,644      | 1,430      | 745,399   |
| 2017          | 0                               | 15,545             | 33,266                    | 754,256                   | 1,430      | 804,497   | 0                        | 12,075             | 33,266                    | 733,644      | 1,430      | 780,415   |
| 2018          | 0                               | 15,648             | (50,078)                  | 754,256                   | 1,430      | 721,256   | 0                        | 12,178             | (50,078)                  | 733,644      | 1,430      | 697,174   |
| 2019          | 0                               | 15,574             | 31,508                    | 852,454                   | 1,430      | 900,966   | 0                        | 12,104             | 31,508                    | 810,872      | 1,430      | 855,914   |
| 2020          | 0                               | 15,597             | (3,398)                   | 854,854                   | 1,430      | 868,483   | 0                        | 12,127             | (3,398)                   | 810,872      | 1,430      | 821,031   |
| 2021          | 0                               | 15,596             | (1,117)                   | 854,854                   | 1,430      | 870,763   | 0                        | 12,126             | (1,117)                   | 810,872      | 1,430      | 823,311   |
| 2022          | 0                               | 15,590             | (3,434)                   | 854,854                   | 1,430      | 868,440   | 0                        | 12,120             | (3,434)                   | 810,872      | 1,430      | 820,988   |
| 2023          | 0                               | 15,589             | (18,638)                  | 854,854                   | 1,430      | 853,235   | 0                        | 12,119             | (18,638)                  | 810,872      | 1,430      | 805,783   |
| 2024          | 0                               | 15,531             | 21,309                    | 854,854                   | 1,430      | 893,124   | 0                        | 12,061             | 21,309                    | 810,872      | 1,430      | 845,672   |
| 2025          | 0                               | 15,615             | (11,624)                  | 854,854                   | 1,430      | 860,275   | 0                        | 12,145             | (11,624)                  | 810,872      | 1,430      | 812,823   |
| 2026          | 0                               | 15,580             | 13,030                    | 854,854                   | 1,430      | 884,894   | 0                        | 12,110             | 13,030                    | 810,872      | 1,430      | 837,442   |
| 2027          | 0                               | 15,511             | (6,161)                   | 854,854                   | 1,430      | 865,634   | 0                        | 12,041             | (6,161)                   | 810,872      | 1,430      | 818,182   |
| 2028          | 0                               | 15,611             | 4,006                     | 854,854                   | 1,430      | 875,901   | 0                        | 12,141             | 4,006                     | 810,872      | 1,430      | 828,449   |
| 2029          | 0                               | 15,605             | (913)                     | 854,854                   | 1,430      | 870,976   | 0                        | 12,135             | (913)                     | 810,872      | 1,430      | 823,524   |
| 2030          | 0                               | 15,580             | 8,528                     | 854,854                   | 1,430      | 880,392   | 0                        | 12,110             | 8,528                     | 810,872      | 1,430      | 832,940   |
| 2031          | 0                               | 15,606             | (31,057)                  | 854,854                   | 1,430      | 840,833   | 0                        | 12,136             | (31,057)                  | 810,872      | 1,430      | 793,381   |
| 2032          | 0                               | 15,515             | 43,953                    | 854,854                   | 1,430      | 915,752   | 0                        | 12,045             | 43,953                    | 810,872      | 1,430      | 868,300   |
| 2033          | 0                               | 15,504             | (37,929)                  | 854,854                   | 1,430      | 833,859   | 0                        | 12,034             | (37,929)                  | 810,872      | 1,430      | 786,407   |
| 2034          | 0                               | 15,419             | 28,588                    | 854,854                   | 1,430      | 900,291   | 0                        | 11,949             | 28,588                    | 810,872      | 1,430      | 852,839   |
| 2035          | 0                               | 15,542             | (49,219)                  | 854,854                   | 1,430      | 822,607   | 0                        | 12,072             | (49,219)                  | 810,872      | 1,430      | 775,155   |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

Sheet 7 of 10

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                    |                           |              |            |                        |                    |                    |                       |        |
|---------------|---------------------------------|--------------------|---------------------------|--------------|------------|------------------------|--------------------|--------------------|-----------------------|--------|
|               | Santa Ana Division              |                    |                           |              |            |                        |                    |                    |                       |        |
|               | Devil Canyon Powerplant         |                    |                           |              |            | Greenspot Pump Station |                    |                    |                       |        |
|               | Initial Fill Water              | Operational Losses | Reservoir Storage Changes | Deliveries   |            | Total                  | Initial Fill Water | Operational Losses | Water Supply Delivery | Total  |
|               | [75]                            | [76]               | [77]                      | Water Supply | Recreation | [80]                   | [81]               | [82]               | [83]                  | [84]   |
| 1961          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1962          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1963          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1964          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1965          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1966          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1967          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1968          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1969          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1970          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1971          | 0                               | 0                  | 0                         | 0            | 0          | 0                      | 0                  | 0                  | 0                     | 0      |
| 1972          | 37                              | 0                  | 0                         | 1,275        | 0          | 1,312                  | 0                  | 0                  | 0                     | 0      |
| 1973          | 40,848                          | 14,745             | 0                         | 51,812       | 0          | 107,405                | 0                  | 0                  | 0                     | 0      |
| 1974          | 74,666                          | 8,367              | (4,925)                   | 102,198      | 0          | 180,306                | 0                  | 0                  | 0                     | 0      |
| 1975          | 10,000                          | 1,995              | (6,719)                   | 189,526      | 0          | 194,802                | 0                  | 0                  | 0                     | 0      |
| 1976          | 4,168                           | 5,180              | (9,182)                   | 235,711      | 23         | 235,900                | 0                  | 0                  | 0                     | 0      |
| 1977          | 0                               | 8,082              | (5,235)                   | 101,137      | 469        | 104,453                | 0                  | 0                  | 0                     | 0      |
| 1978          | 14,820                          | 3,754              | 21,686                    | 373,636      | 481        | 414,377                | 0                  | 0                  | 0                     | 0      |
| 1979          | 12,302                          | 5,620              | (27,107)                  | 356,854      | 485        | 348,154                | 0                  | 0                  | 0                     | 0      |
| 1980          | 0                               | 9,468              | 12,714                    | 395,975      | 742        | 418,899                | 0                  | 0                  | 0                     | 0      |
| 1981          | 0                               | 8,401              | (23,448)                  | 569,088      | 807        | 554,848                | 0                  | 0                  | 0                     | 0      |
| 1982          | 0                               | 6,012              | 44,469                    | 399,799      | 1,798      | 452,078                | 0                  | 0                  | 0                     | 0      |
| 1983          | 0                               | 8,597              | 5,188                     | 230,277      | 1,078      | 245,140                | 0                  | 0                  | 0                     | 0      |
| 1984          | 0                               | 12,861             | (850)                     | 250,938      | 1,414      | 264,363                | 0                  | 0                  | 0                     | 0      |
| 1985          | 0                               | 14,325             | (8,791)                   | 349,336      | 956        | 355,826                | 0                  | 0                  | 0                     | 0      |
| 1986          | 0                               | 9,486              | 8,339                     | 392,650      | 1,378      | 411,853                | 0                  | 0                  | 0                     | 0      |
| 1987          | 0                               | 7,923              | (11,335)                  | 375,451      | 1,118      | 373,157                | 0                  | 0                  | 0                     | 0      |
| 1988          | 0                               | 11,090             | 2,238                     | 499,285      | 861        | 513,474                | 0                  | 0                  | 0                     | 0      |
| 1989          | 0                               | 13,116             | (5,487)                   | 658,730      | 1,301      | 667,660                | 0                  | 0                  | 0                     | 0      |
| 1990          | 0                               | 13,439             | (4,622)                   | 728,723      | 1,281      | 738,821                | 0                  | 0                  | 0                     | 0      |
| 1991          | 0                               | 10,836             | 18,308                    | 161,032      | 340        | 190,516                | 0                  | 0                  | 0                     | 0      |
| 1992          | 0                               | 9,157              | (9,084)                   | 328,354      | 371        | 328,798                | 0                  | 0                  | 0                     | 0      |
| 1993          | 0                               | 5,602              | 5,593                     | 244,678      | 364        | 256,237                | 0                  | 0                  | 0                     | 0      |
| 1994          | 0                               | 10,915             | (11,045)                  | 393,690      | 357        | 393,917                | 0                  | 0                  | 0                     | 0      |
| 1995          | 0                               | 11,268             | 2,331                     | 320,978      | 358        | 334,935                | 0                  | 0                  | 0                     | 0      |
| 1996          | 0                               | 9,496              | 13,015                    | 417,656      | 494        | 440,661                | 0                  | 0                  | 0                     | 0      |
| 1997          | 0                               | 8,087              | (19,685)                  | 451,874      | 416        | 440,692                | 0                  | 0                  | 0                     | 0      |
| 1998          | 0                               | 6,700              | 16,643                    | 332,198      | 310        | 355,851                | 0                  | 0                  | 0                     | 0      |
| 1999          | 0                               | 9,784              | (4,177)                   | 497,787      | 341        | 503,735                | 0                  | 0                  | 0                     | 0      |
| 2000          | 0                               | 7,407              | (11,040)                  | 853,786      | 375        | 850,528                | 0                  | 0                  | 0                     | 0      |
| 2001          | 0                               | 9,324              | 8,183                     | 631,363      | 374        | 649,244                | 0                  | 0                  | 0                     | 0      |
| 2002          | 0                               | 10,315             | 9,682                     | 818,028      | 413        | 838,438                | 0                  | 0                  | 0                     | 0      |
| 2003          | 0                               | 9,198              | (18,298)                  | 922,901      | 260        | 914,061                | 0                  | 0                  | 4,526                 | 4,526  |
| 2004          | 0                               | 11,166             | 15,150                    | 1,033,309    | 85         | 1,059,710              | 0                  | 0                  | 3,798                 | 3,798  |
| 2005          | 0                               | 4,500              | (63,441)                  | 1,010,247    | 0          | 951,306                | 0                  | 0                  | 3,686                 | 3,686  |
| 2006          | 0                               | 8,208              | 7,571                     | 1,153,993    | 0          | 1,169,772              | 0                  | 0                  | 7,775                 | 7,775  |
| 2007          | 0                               | 8,216              | (5,872)                   | 953,803      | 0          | 956,147                | 0                  | 0                  | 12,168                | 12,168 |
| 2008          | 0                               | 10,599             | 7,759                     | 533,221      | 0          | 551,579                | 0                  | 0                  | 14,408                | 14,408 |
| 2009          | 0                               | 10,035             | (5,600)                   | 410,032      | 1,025      | 415,492                | 0                  | 0                  | 20,542                | 20,542 |
| 2010          | 0                               | 6,275              | 5,344                     | 851,786      | 307        | 863,712                | 0                  | 0                  | 18,395                | 18,395 |
| 2011          | 0                               | 7,359              | 2,371                     | 1,066,088    | 417        | 1,076,235              | 0                  | 0                  | 20,586                | 20,586 |
| 2012          | 0                               | (1,942)            | (2,225)                   | 771,982      | 459        | 768,274                | 0                  | 0                  | 23,791                | 23,791 |
| 2013          | 0                               | 3,306              | 3,042                     | 458,221      | 416        | 464,985                | 0                  | 0                  | 20,560                | 20,560 |
| 2014          | 0                               | 8,077              | 0                         | 179,425      | 1,250      | 188,752                | 0                  | 0                  | 9,637                 | 9,637  |
| 2015          | 0                               | 8,077              | 0                         | 723,114      | 1,250      | 732,441                | 0                  | 0                  | 10,380                | 10,380 |
| 2016          | 0                               | 8,077              | 0                         | 723,114      | 1,250      | 732,441                | 0                  | 0                  | 10,380                | 10,380 |
| 2017          | 0                               | 8,502              | 9,828                     | 723,114      | 1,250      | 742,694                | 0                  | 0                  | 10,380                | 10,380 |
| 2018          | 0                               | 8,484              | (19,777)                  | 723,114      | 1,250      | 713,071                | 0                  | 0                  | 10,380                | 10,380 |
| 2019          | 0                               | 8,492              | 17,408                    | 798,132      | 1,250      | 825,282                | 0                  | 0                  | 10,380                | 10,380 |
| 2020          | 0                               | 8,483              | (17,305)                  | 798,132      | 1,250      | 790,560                | 0                  | 0                  | 10,380                | 10,380 |
| 2021          | 0                               | 8,486              | (398)                     | 798,132      | 1,250      | 807,470                | 0                  | 0                  | 10,380                | 10,380 |
| 2022          | 0                               | 8,486              | 13,735                    | 798,132      | 1,250      | 821,603                | 0                  | 0                  | 10,380                | 10,380 |
| 2023          | 0                               | 8,482              | (8,417)                   | 798,132      | 1,250      | 799,447                | 0                  | 0                  | 10,380                | 10,380 |
| 2024          | 0                               | 8,462              | 689                       | 798,132      | 1,250      | 808,533                | 0                  | 0                  | 10,380                | 10,380 |
| 2025          | 0                               | 8,489              | 4,591                     | 798,132      | 1,250      | 812,462                | 0                  | 0                  | 10,380                | 10,380 |
| 2026          | 0                               | 8,475              | (3,819)                   | 798,132      | 1,250      | 804,038                | 0                  | 0                  | 10,380                | 10,380 |
| 2027          | 0                               | 8,479              | 745                       | 798,132      | 1,250      | 808,606                | 0                  | 0                  | 10,380                | 10,380 |
| 2028          | 0                               | 8,481              | (5,355)                   | 798,132      | 1,250      | 802,508                | 0                  | 0                  | 10,380                | 10,380 |
| 2029          | 0                               | 8,481              | 2,909                     | 798,132      | 1,250      | 810,772                | 0                  | 0                  | 10,380                | 10,380 |
| 2030          | 0                               | 8,480              | 296                       | 798,132      | 1,250      | 808,158                | 0                  | 0                  | 10,380                | 10,380 |
| 2031          | 0                               | 8,475              | (1,976)                   | 798,132      | 1,250      | 805,881                | 0                  | 0                  | 10,380                | 10,380 |
| 2032          | 0                               | 8,449              | 18,821                    | 798,132      | 1,250      | 826,652                | 0                  | 0                  | 10,380                | 10,380 |
| 2033          | 0                               | 8,449              | (23,419)                  | 798,132      | 1,250      | 784,412                | 0                  | 0                  | 10,380                | 10,380 |
| 2034          | 0                               | 8,443              | 21,651                    | 798,132      | 1,250      | 829,476                | 0                  | 0                  | 10,380                | 10,380 |
| 2035          | 0                               | 8,451              | (31,434)                  | 798,132      | 1,250      | 776,399                | 0                  | 0                  | 10,380                | 10,380 |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

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| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                    |                       |        |                            |                    |                       |                                  |                    |                    |                           |              |                       |         |         |
|---------------|---------------------------------|--------------------|-----------------------|--------|----------------------------|--------------------|-----------------------|----------------------------------|--------------------|--------------------|---------------------------|--------------|-----------------------|---------|---------|
|               | Santa Ana Division (continued)  |                    |                       |        |                            |                    |                       | West Branch, California Aqueduct |                    |                    |                           |              |                       |         |         |
|               | Crafton Hills Pump Station      |                    |                       |        | Cherry Valley Pump Station |                    |                       | Oso Pumping Plant                |                    |                    |                           |              |                       |         |         |
|               | Initial Fill Water              | Operational Losses | Water Supply Delivery | Total  | Initial Fill Water         | Operational Losses | Water Supply Delivery | Total                            | Initial Fill Water | Operational Losses | Reservoir Storage Changes | Water Supply | Deliveries Recreation | Total   |         |
| [85]          | [86]                            | [87]               | [88]                  | [88]   | [89]                       | [90]               | [91]                  | [92]                             | [93]               | [94]               | [95]                      | [96]         | [97]                  | [98]    |         |
| 1961          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1962          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1963          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1964          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1965          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1966          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1967          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1968          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1969          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1970          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 0                  | 0                         | 0            | 0                     | 0       |         |
| 1971          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 2,444              | 133                | 0                         | 0            | 0                     | 2,577   |         |
| 1972          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 63,883             | 6,557              | (6,405)                   | 71,991       | 6,481                 | 142,507 |         |
| 1973          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 124,461            | 16,995             | 4,029                     | 155,317      | 1,075                 | 301,877 |         |
| 1974          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 160,860            | 12,702             | (4,146)                   | 209,172      | 2,064                 | 380,652 |         |
| 1975          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 93,352             | 23,008             | 7,704                     | 374,306      | 3,288                 | 501,658 |         |
| 1976          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 56,954             | 15,845             | (136,116)                 | 420,708      | 1,429                 | 358,820 |         |
| 1977          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 4,407              | (98,685)                  | 122,447      | (20)                  | 28,149  |         |
| 1978          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 45,105             | 9,061              | 52,774                    | 171,139      | 176                   | 278,255 |         |
| 1979          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 25,355             | (18,781)                  | 145,598      | 0                     | 152,172 |         |
| 1980          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 24,576             | (140,168)                 | 165,931      | 481                   | 50,820  |         |
| 1981          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 15,254             | 59,637                    | 283,264      | 3,179                 | 361,334 |         |
| 1982          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 23,824             | 61,685                    | 360,878      | 2,126                 | 448,513 |         |
| 1983          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 23,601             | (74,308)                  | 166,995      | 6,111                 | 122,399 |         |
| 1984          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 12,461             | (138,146)                 | 272,101      | 3,750                 | 150,166 |         |
| 1985          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 28,257             | 142,219                   | 403,097      | 3,728                 | 577,301 |         |
| 1986          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 22,387             | 25,288                    | 393,203      | 1,777                 | 442,655 |         |
| 1987          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 18,164             | (10,252)                  | 433,452      | 5,698                 | 447,062 |         |
| 1988          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 20,461             | (30,848)                  | 507,169      | 3,389                 | 500,171 |         |
| 1989          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 27,914             | (40,463)                  | 611,681      | 6,083                 | 605,215 |         |
| 1990          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 33,666             | (9,176)                   | 791,355      | 7,491                 | 823,336 |         |
| 1991          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 16,460             | 70,754                    | 263,909      | 4,166                 | 355,289 |         |
| 1992          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 8,238              | (75,008)                  | 435,661      | 1,572                 | 370,463 |         |
| 1993          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 2,674              | (124,283)                 | 451,263      | 1,233                 | 330,887 |         |
| 1994          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 18,688             | (91,606)                  | 490,819      | 2,488                 | 420,389 |         |
| 1995          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 21,775             | 14,330                    | 157,629      | 1,242                 | 194,976 |         |
| 1996          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 30,121             | 26,848                    | 286,066      | 2,363                 | 345,398 |         |
| 1997          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 30,468             | 1,892                     | 323,212      | 1,569                 | 357,141 |         |
| 1998          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 26,851             | (122,848)                 | 208,916      | 1,222                 | 114,141 |         |
| 1999          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 25,690             | 5,679                     | 357,664      | 2,883                 | 391,916 |         |
| 2000          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 33,658             | 18,198                    | 668,126      | 3,767                 | 723,749 |         |
| 2001          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 24,551             | (22,308)                  | 477,315      | 759                   | 480,317 |         |
| 2002          | 0                               | 0                  | 0                     | 0      | 0                          | 0                  | 0                     | 0                                | 0                  | 44,692             | 41,944                    | 779,284      | 3,471                 | 869,391 |         |
| 2003          | 0                               | 0                  | 2,733                 | 2,733  | 0                          | 0                  | 116                   | 116                              | 0                  | 0                  | 39,495                    | (27,394)     | 735,699               | 10,290  | 758,090 |
| 2004          | 0                               | 0                  | 3,212                 | 3,212  | 0                          | 0                  | 841                   | 841                              | 0                  | 0                  | 41,947                    | (14,046)     | 850,007               | 478     | 878,386 |
| 2005          | 0                               | 0                  | 2,727                 | 2,727  | 0                          | 0                  | 692                   | 692                              | 0                  | 0                  | 38,154                    | (109,664)    | 577,251               | 475     | 506,216 |
| 2006          | 0                               | 0                  | 6,892                 | 6,892  | 0                          | 0                  | 807                   | 807                              | 0                  | 0                  | 38,534                    | (128,775)    | 616,546               | 406     | 526,711 |
| 2007          | 0                               | 0                  | 9,038                 | 9,038  | 0                          | 0                  | 177                   | 177                              | 0                  | 0                  | 46,921                    | 123,287      | 760,750               | 202     | 931,160 |
| 2008          | 0                               | 0                  | 13,728                | 13,728 | 0                          | 0                  | 1,042                 | 1,042                            | 0                  | 0                  | 36,204                    | (9,613)      | 531,832               | 247     | 558,670 |
| 2009          | 0                               | 0                  | 16,463                | 16,463 | 0                          | 0                  | 1,898                 | 1,898                            | 0                  | 0                  | 33,295                    | 4,893        | 631,969               | 195     | 670,352 |
| 2010          | 0                               | 0                  | 17,778                | 17,778 | 0                          | 0                  | 5,685                 | 5,685                            | 0                  | 0                  | 27,788                    | 41,267       | 412,240               | 240     | 481,535 |
| 2011          | 0                               | 0                  | 19,887                | 19,887 | 0                          | 0                  | 9,290                 | 9,290                            | 0                  | 0                  | 29,227                    | (17,411)     | 411,366               | 242     | 423,424 |
| 2012          | 0                               | 0                  | 20,614                | 20,614 | 0                          | 0                  | 11,010                | 11,010                           | 0                  | 0                  | 42,913                    | 14,802       | 593,774               | 388     | 651,877 |
| 2013          | 0                               | 0                  | 17,526                | 17,526 | 0                          | 0                  | 9,445                 | 9,445                            | 0                  | 0                  | 49,029                    | (4,336)      | 612,912               | 294     | 567,899 |
| 2014          | 0                               | 0                  | 9,526                 | 9,526  | 0                          | 0                  | 5,627                 | 5,627                            | 0                  | 0                  | 17,406                    | (8,000)      | 362,215               | 5,380   | 377,001 |
| 2015          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 6,620                 | 6,620                            | 0                  | 0                  | 17,403                    | 0            | 682,340               | 5,380   | 705,123 |
| 2016          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,440                 | 9,440                            | 0                  | 0                  | 17,404                    | (2,000)      | 680,340               | 5,380   | 701,124 |
| 2017          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 10,060                | 10,060                           | 0                  | 0                  | 14,749                    | 28,043       | 678,340               | 5,380   | 726,512 |
| 2018          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 10,380                | 10,380                           | 0                  | 0                  | 14,800                    | (30,739)     | 678,340               | 5,380   | 667,781 |
| 2019          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,698                    | 18,671       | 564,388               | 5,380   | 603,137 |
| 2020          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,739                    | 3,032        | 564,688               | 5,380   | 587,839 |
| 2021          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,823                    | 11,842       | 565,488               | 5,380   | 597,533 |
| 2022          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,823                    | (49)         | 566,388               | 5,380   | 586,542 |
| 2023          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,815                    | (333)        | 567,188               | 5,380   | 587,050 |
| 2024          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,752                    | (10,020)     | 568,088               | 5,380   | 578,200 |
| 2025          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,731                    | (894)        | 568,888               | 5,380   | 588,105 |
| 2026          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,778                    | 11,278       | 569,388               | 5,380   | 600,824 |
| 2027          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,760                    | (11,638)     | 569,988               | 5,380   | 578,490 |
| 2028          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,800                    | 8,285        | 570,488               | 5,380   | 598,953 |
| 2029          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,733                    | (8,133)      | 571,188               | 5,380   | 583,168 |
| 2030          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,822                    | 12,228       | 571,788               | 5,380   | 604,218 |
| 2031          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,668                    | (66,669)     | 572,688               | 5,380   | 526,067 |
| 2032          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,361                    | 41,046       | 573,488               | 5,380   | 634,275 |
| 2033          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,577                    | (56,723)     | 574,288               | 5,380   | 537,522 |
| 2034          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 14,154                    | 41,005       | 575,088               | 5,380   | 635,627 |
| 2035          | 0                               | 0                  | 10,380                | 10,380 | 0                          | 0                  | 9,700                 | 9,700                            | 0                  | 0                  | 13,371                    | (193,440)    | 575,888               | 5,380   | 401,199 |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

Sheet 9 of 10

| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)              |                            |                                 |            |        |         |                          |                            |                                 |            |       |         |
|------------------|--|----------------------------|---------------------------------|------------|--------|---------|--------------------------|----------------------------|---------------------------------|------------|-------|---------|
|                  | West Branch, California Aqueduct (continued) |                            |                                 |            |        |         |                          |                            |                                 |            |       |         |
|                  | Warne Powerplant                             |                            |                                 |            |        |         | Castaic Powerplant       |                            |                                 |            |       |         |
|                  | Initial<br>Fill<br>Water                     | Opera-<br>tional<br>Losses | Reservoir<br>Storage<br>Changes | Deliveries |        | Total   | Initial<br>Fill<br>Water | Opera-<br>tional<br>Losses | Reservoir<br>Storage<br>Changes | Deliveries |       | Total   |
| 1961             | [99]   | [100]                      | [101]                           | [102]      | [103]  | [104]   | [105]                    | [106]                      | [107]                           | [108]      | [109] | [110]   |
| 1962             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1963             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1964             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1965             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1966             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1967             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1968             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1969             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1970             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1971             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 0                          | 0                               | 0          | 0     | 0       |
| 1972             | 0  | 0                          | 0                               | 0          | 0      | 0       | 57,364                   | 1,788                      | (6,162)                         | 71,938     | 6,481 | 131,409 |
| 1973             | 0  | 0                          | 0                               | 0          | 0      | 0       | 37,198                   | 6,430                      | 4,542                           | 155,297    | 1,075 | 204,542 |
| 1974             | 0  | 0                          | 0                               | 0          | 0      | 0       | 82,364                   | 1,772                      | (950)                           | 209,136    | 541   | 292,863 |
| 1975             | 0  | 0                          | 0                               | 0          | 0      | 0       | 90,460                   | 5,002                      | (1,534)                         | 374,280    | 1,563 | 469,771 |
| 1976             | 0  | 0                          | 0                               | 0          | 0      | 0       | 55,990                   | (7,695)                    | (132,036)                       | 420,684    | 1,429 | 338,372 |
| 1977             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | (1,485)                    | (102,532)                       | 122,447    | (20)  | 18,410  |
| 1978             | 0  | 0                          | 0                               | 0          | 0      | 0       | 45,105                   | (2,264)                    | 129,523                         | 171,139    | 176   | 343,679 |
| 1979             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | (2,339)                    | (20,400)                        | 145,598    | 0     | 122,859 |
| 1980             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | 991                        | (118,026)                       | 165,931    | 481   | 49,377  |
| 1981             | 0  | 0                          | 0                               | 0          | 0      | 0       | 0                        | (44,416)                   | 47,244                          | 283,264    | 2,704 | 288,796 |
| 1982             | 0  | 24,468                     | 61,169                          | 360,878    | 2,126  | 448,641 | 0                        | (60,135)                   | 59,069                          | 360,878    | 1,187 | 360,999 |
| 1983             | 0  | 20,780                     | (74,308)                        | 166,995    | 6,111  | 119,578 | 0                        | (33,418)                   | (46,904)                        | 166,995    | 2,618 | 89,291  |
| 1984             | 0  | 13,572                     | (139,219)                       | 275,212    | 2,208  | 151,773 | 0                        | (29,618)                   | (139,545)                       | 275,212    | 2,201 | 108,250 |
| 1985             | 0  | 29,286                     | 141,492                         | 403,097    | 874    | 574,749 | 0                        | (4,622)                    | 135,007                         | 403,097    | 844   | 534,326 |
| 1986             | 0  | 21,579                     | 25,288                          | 393,203    | 1,777  | 441,847 | 0                        | (6,664)                    | 21,520                          | 393,203    | 623   | 408,682 |
| 1987             | 0  | 20,885                     | (10,252)                        | 433,452    | 5,698  | 449,783 | 0                        | (519)                      | (6,241)                         | 433,452    | 2,734 | 429,426 |
| 1988             | 0  | 23,253                     | (31,453)                        | 507,169    | 3,389  | 502,358 | 0                        | 12,650                     | (28,498)                        | 507,169    | 1,359 | 492,680 |
| 1989             | 0  | 27,131                     | (40,463)                        | 611,681    | 6,083  | 604,432 | 0                        | 634                        | (40,154)                        | 611,681    | 3,161 | 575,322 |
| 1990             | 0  | 34,208                     | (9,176)                         | 791,355    | 7,491  | 823,878 | 0                        | (14,012)                   | (15,101)                        | 786,519    | 3,419 | 760,825 |
| 1991             | 0  | 16,908                     | 70,754                          | 263,909    | 4,166  | 355,737 | 0                        | (871)                      | 89,637                          | 262,921    | 2,283 | 353,970 |
| 1992             | 0  | 9,638                      | (75,008)                        | 435,661    | 1,572  | 371,863 | 0                        | (609)                      | (71,795)                        | 435,661    | 1,543 | 364,800 |
| 1993             | 0  | 1,922                      | (124,283)                       | 451,257    | 1,233  | 330,129 | 0                        | 21,959                     | (77,428)                        | 451,257    | 1,211 | 396,999 |
| 1994             | 0  | 23,151                     | (91,606)                        | 490,819    | 2,488  | 424,852 | 0                        | 5,205                      | (95,738)                        | 490,819    | 2,465 | 402,751 |
| 1995             | 0  | 15,860                     | 14,330                          | 157,629    | 1,242  | 189,061 | 0                        | 20,400                     | 75,863                          | 157,629    | 1,223 | 255,115 |
| 1996             | 0  | 21,191                     | 26,848                          | 286,066    | 2,363  | 336,468 | 0                        | (5,621)                    | 19,088                          | 286,066    | 2,362 | 301,895 |
| 1997             | 0  | 23,437                     | 1,892                           | 323,201    | 1,569  | 350,099 | 0                        | 11,119                     | (1,802)                         | 323,201    | 1,566 | 334,084 |
| 1998             | 0  | 26,864                     | (122,848)                       | 208,909    | 1,222  | 114,147 | 0                        | 24,544                     | (57,726)                        | 208,909    | 1,222 | 176,949 |
| 1999             | 0  | 21,822                     | 8,120                           | 357,664    | 2,883  | 390,489 | 0                        | (3,670)                    | 6,280                           | 357,664    | 2,865 | 363,139 |
| 2000             | 0  | 27,237                     | 18,198                          | 668,126    | 3,767  | 717,328 | 0                        | (19,645)                   | 9,320                           | 665,926    | 1,556 | 657,157 |
| 2001             | 0  | 17,404                     | (22,308)                        | 477,315    | 759    | 473,170 | 0                        | (5,949)                    | (16,588)                        | 477,315    | 746   | 455,524 |
| 2002             | 0  | 35,058                     | 41,944                          | 779,284    | 3,471  | 859,757 | 0                        | 10,071                     | 35,623                          | 776,136    | 305   | 822,135 |
| 2003             | 0  | 28,167                     | (27,394)                        | 735,699    | 10,290 | 746,762 | 0                        | 9,075                      | (17,034)                        | 725,781    | 356   | 718,178 |
| 2004             | 0  | 31,034                     | (14,046)                        | 850,007    | 478    | 867,473 | 0                        | 9,120                      | (11,440)                        | 845,960    | 456   | 844,096 |
| 2005             | 0  | 29,111                     | (109,664)                       | 577,251    | 475    | 497,173 | 0                        | 21,155                     | (61,490)                        | 577,251    | 472   | 537,388 |
| 2006             | 0  | 23,453                     | (128,775)                       | 616,546    | 406    | 511,630 | 0                        | 4,173                      | (121,607)                       | 616,546    | 396   | 499,508 |
| 2007             | 0  | 29,978                     | 123,287                         | 760,750    | 202    | 914,217 | 0                        | (1,664)                    | 117,880                         | 758,860    | 196   | 875,272 |
| 2008             | 0  | 36,744                     | (9,613)                         | 531,832    | 247    | 559,210 | 0                        | 498                        | (14,279)                        | 529,852    | 211   | 516,282 |
| 2009             | 0  | 30,564                     | 4,893                           | 631,969    | 195    | 667,621 | 0                        | (2,825)                    | 9,194                           | 628,819    | 164   | 635,352 |
| 2010             | 0  | 26,930                     | 41,267                          | 412,240    | 240    | 420,677 | 0                        | (4,135)                    | 40,284                          | 409,090    | 207   | 445,446 |
| 2011             | 0  | 29,363                     | (17,411)                        | 411,366    | 242    | 423,560 | 0                        | (9,084)                    | (22,531)                        | 408,846    | 221   | 377,452 |
| 2012             | 0  | 28,769                     | 14,802                          | 593,750    | 388    | 637,709 | 0                        | 10,210                     | 16,335                          | 590,600    | 375   | 617,520 |
| 2013             | 0  | 30,918                     | (4,336)                         | 612,865    | 294    | 639,741 | 0                        | 13,114                     | (3,811)                         | 610,623    | 196   | 620,122 |
| 2014             | 0  | 15,496                     | (8,000)                         | 362,215    | 5,380  | 375,091 | 0                        | 9,819                      | (5,000)                         | 361,308    | 2,330 | 368,457 |
| 2015             | 0  | 15,493                     | 0                               | 682,340    | 5,380  | 703,213 | 0                        | 9,817                      | 0                               | 680,450    | 2,330 | 692,597 |
| 2016             | 0  | 15,494                     | (2,000)                         | 680,340    | 5,380  | 699,214 | 0                        | 9,818                      | (2,000)                         | 678,450    | 2,330 | 688,598 |
| 2017             | 0  | 12,839                     | 28,043                          | 678,340    | 5,380  | 724,602 | 0                        | 6,554                      | 28,043                          | 676,450    | 2,330 | 713,377 |
| 2018             | 0  | 12,890                     | (30,739)                        | 678,340    | 5,380  | 665,871 | 0                        | 6,605                      | (30,739)                        | 676,450    | 2,330 | 654,646 |
| 2019             | 0  | 12,788                     | 18,671                          | 564,388    | 5,380  | 601,227 | 0                        | 6,503                      | 18,671                          | 562,498    | 2,330 | 590,002 |
| 2020             | 0  | 12,829                     | 3,032                           | 564,688    | 5,380  | 585,929 | 0                        | 6,544                      | 3,032                           | 562,798    | 2,330 | 574,704 |
| 2021             | 0  | 12,913                     | 11,842                          | 565,488    | 5,380  | 595,623 | 0                        | 6,628                      | 11,842                          | 563,598    | 2,330 | 584,398 |
| 2022             | 0  | 12,913                     | (49)                            | 566,388    | 5,380  | 584,632 | 0                        | 6,628                      | (49)                            | 564,498    | 2,330 | 573,407 |
| 2023             | 0  | 12,905                     | (333)                           | 567,188    | 5,380  | 585,140 | 0                        | 6,620                      | (333)                           | 565,298    | 2,330 | 573,915 |
| 2024             | 0  | 12,842                     | (10,020)                        | 568,088    | 5,380  | 576,290 | 0                        | 6,557                      | (10,020)                        | 566,198    | 2,330 | 565,065 |
| 2025             | 0  | 12,821                     | (894)                           | 568,888    | 5,380  | 586,195 | 0                        | 6,536                      | (894)                           | 566,998    | 2,330 | 574,970 |
| 2026             | 0  | 12,868                     | 11,278                          | 569,388    | 5,380  | 598,914 | 0                        | 6,583                      | 11,278                          | 567,498    | 2,330 | 587,689 |
| 2027             | 0  | 12,850                     | (11,638)                        | 569,988    | 5,380  | 576,580 | 0                        | 6,565                      | (11,638)                        | 568,098    | 2,330 | 565,355 |
| 2028             | 0  | 12,890                     | 8,285                           | 570,488    | 5,380  | 597,043 | 0                        | 6,605                      | 8,285                           | 568,598    | 2,330 | 585,818 |
| 2029             | 0  | 12,823                     | (8,133)                         | 571,188    | 5,380  | 581,258 | 0                        | 6,538                      | (8,133)                         | 569,298    | 2,330 | 570,033 |
| 2030             | 0  | 12,912                     | 12,228                          | 571,788    | 5,380  | 602,308 | 0                        | 6,627                      | 12,228                          | 569,898    | 2,330 | 591,083 |
| 2031             | 0  | 12,758                     | (66,669)                        | 572,688    | 5,380  | 524,157 | 0                        | 6,473                      | (66,669)                        | 570,798    | 2,330 | 512,932 |
| 2032             | 0  | 12,451                     | 41,046                          | 573,488    | 5,380  | 632,365 | 0                        | 6,166                      | 41,046                          | 571,598    | 2,330 | 621,140 |
| 2033             | 0  | 12,667                     | (56,723)                        | 574,288    | 5,380  | 535,612 | 0                        | 6,382                      | (56,723)                        | 572,398    | 2,330 | 524,387 |
| 2034             | 0  | 12,244                     | 41,005                          | 575,088    | 5,380  | 633,717 | 0                        | 5,959                      | 41,005                          | 573,198    | 2,330 | 622,492 |
| 2035             | 0  | 11,461                     | (193,440)                       | 575,888    | 5,380  | 399,289 | 0                        | 5,176                      | (193,440)                       | 573,998    | 2,330 | 388,064 |

**TABLE B-6 Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities**

(in acre-feet)

Sheet 10 of 10

| Calendar Year | CALIFORNIA AQUEDUCT (continued)             |                    |                       |         |   |                    |                       |        |
|---------------|---|--------------------|-----------------------|---------|---|--------------------|-----------------------|--------|
|               | Coastal Branch, California Aqueduct         |                    |                       |         |   |                    |                       |        |
|               | Las Perillas and Badger Hill Pumping Plants |                    |                       |         | Devil's Den, Bluestone, and Polonio Pass Pumping Plants |                    |                       |        |
|               | Initial Fill Water                          | Operational Losses | Water Supply Delivery | Total   | Initial Fill Water                                      | Operational Losses | Water Supply Delivery | Total  |
| [111]         | [112]                                       | [113]              | [114]                 | [115]   | [116]   | [117]              | [118]                 |        |
| 1961          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1962          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1963          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1964          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1965          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1966          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1967          | 0   | 0                  | 0                     | 0       | 0   | 0                  | 0                     | 0      |
| 1968          | 210   | 873                | 79,039                | 80,122  | 0   | 0                  | 0                     | 0      |
| 1969          | 0   | 1,042              | 62,064                | 63,106  | 0   | 0                  | 0                     | 0      |
| 1970          | 0   | 638                | 83,649                | 84,287  | 0   | 0                  | 0                     | 0      |
| 1971          | 0   | 3,455              | 110,971               | 114,426 | 0   | 0                  | 0                     | 0      |
| 1972          | 0   | 1,745              | 121,755               | 123,500 | 0   | 0                  | 0                     | 0      |
| 1973          | 0   | 5,479              | 78,645                | 84,124  | 0   | 0                  | 0                     | 0      |
| 1974          | 0   | 7,344              | 78,174                | 85,518  | 0   | 0                  | 0                     | 0      |
| 1975          | 0   | 5,819              | 85,216                | 91,035  | 0   | 0                  | 0                     | 0      |
| 1976          | 0   | 6,562              | 90,058                | 96,620  | 0   | 0                  | 0                     | 0      |
| 1977          | 0   | 5,777              | 40,579                | 46,356  | 0   | 0                  | 0                     | 0      |
| 1978          | 0   | 9,085              | 92,604                | 101,689 | 0   | 0                  | 0                     | 0      |
| 1979          | 0   | 10,896             | 123,155               | 134,051 | 0   | 0                  | 0                     | 0      |
| 1980          | 0   | 9,449              | 111,379               | 120,828 | 0   | 0                  | 0                     | 0      |
| 1981          | 0   | 13,232             | 109,754               | 122,986 | 0   | 0                  | 0                     | 0      |
| 1982          | 0   | 7,984              | 95,776                | 103,760 | 0   | 0                  | 0                     | 0      |
| 1983          | 0   | 5,710              | 100,518               | 106,228 | 0   | 0                  | 0                     | 0      |
| 1984          | 0   | 5,740              | 126,387               | 132,127 | 0   | 0                  | 0                     | 0      |
| 1985          | 0   | 7,563              | 120,823               | 128,386 | 0   | 0                  | 0                     | 0      |
| 1986          | 0   | 8,719              | 131,599               | 140,318 | 0   | 0                  | 0                     | 0      |
| 1987          | 0   | 11,363             | 128,080               | 139,443 | 0   | 0                  | 0                     | 0      |
| 1988          | 0   | 12,831             | 120,969               | 133,800 | 0   | 0                  | 0                     | 0      |
| 1989          | 0   | 11,454             | 116,801               | 128,255 | 0   | 0                  | 0                     | 0      |
| 1990          | 0   | 13,022             | 109,802               | 122,824 | 0   | 0                  | 0                     | 0      |
| 1991          | 0   | 5,802              | 1,496                 | 7,298   | 0   | 0                  | 0                     | 0      |
| 1992          | 0   | 7,893              | 79,635                | 87,528  | 0   | 0                  | 0                     | 0      |
| 1993          | 0   | 9,282              | 94,921                | 104,203 | 0   | 0                  | 0                     | 0      |
| 1994          | 0   | 8,515              | 87,158                | 95,673  | 0   | 0                  | 0                     | 0      |
| 1995          | 0   | 6,986              | 94,536                | 101,522 | 0   | 0                  | 0                     | 0      |
| 1996          | 0   | 9,663              | 114,630               | 124,293 | 0   | 0                  | 0                     | 0      |
| 1997          | 527   | 8,343              | 110,428               | 119,298 | 527   | 0                  | 8,538                 | 9,065  |
| 1998          | 0   | 8,415              | 109,400               | 117,815 | 0   | 0                  | 22,210                | 22,210 |
| 1999          | 0   | 2,453              | 120,061               | 122,514 | 0   | 303                | 23,880                | 24,183 |
| 2000          | 0   | (429)              | 120,313               | 119,884 | 0   | 0                  | 26,703                | 26,703 |
| 2001          | 0   | (742)              | 87,915                | 87,173  | 0   | 0                  | 23,229                | 23,229 |
| 2002          | 0   | 638                | 99,783                | 100,421 | 0   | (151)              | 31,991                | 31,840 |
| 2003          | 0   | 161                | 101,113               | 101,274 | 0   | 284                | 31,421                | 31,705 |
| 2004          | 0   | 492                | 104,144               | 104,636 | 0   | 480                | 33,870                | 34,350 |
| 2005          | 0   | 1,484              | 103,178               | 104,662 | 0   | 573                | 27,595                | 28,168 |
| 2006          | 0   | 1,994              | 115,433               | 117,427 | 0   | 2,034              | 27,484                | 29,518 |
| 2007          | 0   | 3,355              | 131,590               | 134,945 | 0   | 293                | 31,516                | 31,809 |
| 2008          | 0   | 3,696              | 107,239               | 110,935 | 0   | (30)               | 21,795                | 21,765 |
| 2009          | 0   | 2,242              | 102,509               | 104,751 | 0   | (3,078)            | 19,253                | 16,175 |
| 2010          | 0   | 4,050              | 106,590               | 110,640 | 0   | 272                | 21,532                | 21,804 |
| 2011          | 0   | 3,994              | 113,647               | 117,641 | 0   | 533                | 24,869                | 25,402 |
| 2012          | 0   | 7,411              | 109,383               | 116,794 | 0   | 589                | 23,418                | 24,007 |
| 2013          | 0   | 7,637              | 110,714               | 118,351 | 0   | 295                | 21,699                | 21,994 |
| 2014          | 0   | 802                | 79,994                | 80,796  | 0   | 212                | 22,234                | 22,446 |
| 2015          | 0   | 802                | 98,315                | 99,117  | 0   | 212                | 40,872                | 41,084 |
| 2016          | 0   | 802                | 98,315                | 99,117  | 0   | 212                | 40,872                | 41,084 |
| 2017          | 0   | 802                | 98,315                | 99,117  | 0   | 212                | 40,872                | 41,084 |
| 2018          | 0   | 802                | 98,315                | 99,117  | 0   | 212                | 40,872                | 41,084 |
| 2019          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2020          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2021          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2022          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2023          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2024          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2025          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2026          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2027          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2028          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2029          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2030          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2031          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2032          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2033          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2034          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |
| 2035          | 0   | 802                | 99,108                | 99,910  | 0   | 212                | 39,665                | 39,877 |

**TABLE B-7 Reconciliation of Capital Costs  
Allocated to Water Supply and Power Generation**

(in thousands of dollars)

| Item                                     | Project Costs Allocated to Water Supply and Power Generation |   |  |   |  |   |                              | Capital Costs Allocated to Other Purposes | Total State Water Project Capital Cost |
|--|--|---|--|---|--|---|------------------------------|---|--|
|  | Misc. Income Credited to Construction (a)                    | Allowance for Future Price Escalation (b) | Costs of Construction of Delivery Structures (c) | Costs of Requested Excess Capacity and Future Enlargement (d) | Capital Cost Component of Delta Water Charge (e) | Capital Cost Component of Transportation Water Charge (f) | Water Supply and Power Total |   |  |
|  | [1]  | [2]                                       | [3]  | [4]   | [5]  | [6]   | [7]                          | [8]                                       | [9]                                    |
| <b>CONSERVATION FACILITIES</b>           |  |   |  |   |  |   |                              |   |  |
| Upper Feather Division                   |  |   |  |   |  |   |                              |   |  |
| Frenchman Dam and Lake                   | 180  | 0   | 0  | 0   | 601  | 0   | 781                          | 2,876                                     | 3,658                                  |
| Grizzly Valley Dam and Lake Davis        | 65   | 0   | 0  | 0   | 54   | 0   | 119                          | 8,872                                     | 8,991                                  |
| Antelope Dam and Lake                    | 1  | 0   | 0  | 0   | 0  | 0   | 1                            | 5,864                                     | 5,865                                  |
| Abbey Bridge Dam and Reservoir           | 0  | 0   | 0  | 0   | 0  | 0   | 0                            | 520                                       | 520                                    |
| Dixie Refuge Dam and Reservoir           | 0  | 0   | 0  | 0   | 0  | 0   | 0                            | 236                                       | 236                                    |
| Total, Upper Feather Division            | 246  | 0   | 0  | 0   | 656  | 0   | 902                          | 18,368                                    | 19,270                                 |
| Oroville Division                        |  |   |  |   |  |   |                              |   |  |
| Multipurpose Facilities                  | 116,970  | 0   | 0  | 0   | 462,761  | 0   | 579,731                      | 98,586                                    | 678,316                                |
| Specific Power Facilities                | 230  | 0   | 0  | 0   | 173,459  | 0   | 173,689                      | (915)                                     | 172,774                                |
| Total, Oroville Division                 | 117,200  | 0   | 0  | 0   | 636,220  | 0   | 753,420                      | 97,670                                    | 851,090                                |
| California Aqueduct                      |  |   |  |   |  |   |                              |   |  |
| North San Joaquin Division               | 1,210  | 0   | 0  | 0   | 86,144   | 0   | 87,354                       | 3,384                                     | 90,738                                 |
| San Luis Division                        | 13,152   | 0   | 0  | 0   | 129,464  | 0   | 142,616                      | 5,304                                     | 147,919                                |
| Total, California Aqueduct               | 14,362   | 0   | 0  | 0   | 215,608  | 0   | 229,970                      | 8,687                                     | 238,657                                |
| Delta Facilities                         | 37,311   | 0   | 0  | 0   | 348,134  | 0   | 385,445                      | 23,045                                    | 408,489                                |
| Planning and Pre-operation               | 5,302  | 0   | 0  | 0   | 57,086   | 0   | 62,388                       | 0   | 62,388                                 |
| <b>TOTAL, CONSERVATION FACILITIES</b>    | <b>174,421</b>   | <b>0</b>                                  | <b>0</b>   | <b>0</b>  | <b>1,257,703</b>                                 | <b>0</b>  | <b>1,432,123</b>             | <b>147,770</b>                            | <b>1,579,894</b>                       |
| <b>TRANSPORTATION FACILITIES</b>         |  |   |  |   |  |   |                              |   |  |
| Upper Feather Division                   |  |   |  |   |  |   |                              |   |  |
| Grizzly Valley Pipeline                  | 1  | 0   | 315  | 0   | 0  | 341   | 657                          | 0   | 657                                    |
| North Bay Aqueduct                       | 465,371  | 0   | 676  | 0   | 0  | 112,661   | 578,708                      | 0   | 578,708                                |
| South Bay Aqueduct                       | 200,790  | 0   | 3,661  | 0   | 0  | 172,187   | 376,639                      | 23,706                                    | 400,345                                |
| California Aqueduct                      |  |   |  |   |  |   |                              |   |  |
| North San Joaquin Division               | 7,843  | 0   | 108  | 0   | 0  | 208,128   | 216,079                      | 7,531                                     | 223,610                                |
| San Luis Division                        | 17,659   | 0   | 0  | 0   | 0  | 146,363   | 164,022                      | 8,683                                     | 172,706                                |
| South San Joaquin Division               | 15,239   | 0   | 4,751  | 2,093   | 0  | 308,785   | 330,868                      | 17,714                                    | 348,583                                |
| Tehachapi Division                       | 205  | 0   | 0  | 5,230   | 0  | 358,918   | 364,353                      | 20,796                                    | 385,149                                |
| Mojave Division                          | (1,336)  | 0   | 1,686  | 0   | 0  | 336,095   | 336,445                      | 39,964                                    | 376,409                                |
| Santa Ana Division                       | (43,817)   | 0   | 6,079  | 5,331   | 0  | 400,936   | 368,529                      | 79,808                                    | 448,337                                |
| West Branch                              | 39,857   | 0   | 461  | 37  | 0  | 496,429   | 536,784                      | 32,866                                    | 569,650                                |
| Coastal Branch                           | 33,179   | 0   | 176  | 0   | 0  | 471,191   | 504,546                      | 0   | 504,546                                |
| Total, California Aqueduct               | 68,830   | 0   | 13,260   | 12,691  | 0  | 2,726,845   | 2,821,627                    | 207,363                                   | 3,028,990                              |
| <b>TOTAL, TRANSPORTATION FACILITIES</b>  | <b>734,993</b>   | <b>0</b>                                  | <b>17,912</b>                                    | <b>12,691</b>   | <b>0</b>   | <b>3,012,034</b>  | <b>3,777,631</b>             | <b>231,068</b>                            | <b>4,008,699</b>                       |
| EAST BRANCH ENLARGEMENT                  | 0  | 0   | 0  | 0   | 0  | 461,828   | 461,828                      | 0   | 461,828                                |
| EAST BRANCH EXTENSION                    | 0  | 0   | 0  | 0   | 0  | 373,385   | 373,385                      | 0   | 373,385                                |
| COASTAL POWER ALLOCATION                 | 0  | 0   | 0  | 0   | 0  | 30,708  | 30,708                       | 0   | 30,708                                 |
| SAN JOAQUIN DRAINAGE FACILITIES          | 0  | 0   | 0  | 0   | 0  | 0   | 0                            | 101,121                                   | 101,121                                |
| OFF-AQUEDUCT POWER GENERATION FACILITIES | 0  | 0   | 0  | 0   | 0  | 491,574   | 491,574                      | 0   | 491,574                                |
| SMALL HYDRO POWER GENERATION FACILITIES  | 0  | 0   | 0  | 0   | 14,095   | 85,843  | 99,938                       | 0   | 99,938                                 |
| LAND PURCHASE - KERN WATER BANK          | 0  | 0   | 0  | 0   | 34,686   | 0   | 34,686                       | 0   | 34,686                                 |
| UNASSIGNED/MISCELLANEOUS                 | 0  | 0   | 0  | 0   | 0  | 0   | 0                            | 558,395                                   | 558,395                                |
| DAVIS-GRUNSKY                            | 0  | 0   | 0  | 0   | 0  | 0   | 0                            | 130,000                                   | 130,000                                |
| <b>TOTAL THROUGH 2023</b>                | <b>909,414</b>   | <b>0</b>                                  | <b>17,912</b>                                    | <b>12,691</b>   | <b>1,306,484</b>                                 | <b>4,455,372</b>  | <b>6,701,873</b>             | <b>1,168,355</b>                          | <b>7,870,228</b>                       |

(a) Miscellaneous project receipts that are applied for accounting purposes to reduce the capital costs of the particular facilities.

(b) These allowances are included for planning the future financial program, but not for determining current water charges.

(c) See Table B-8.

(d) See Table B-9.

(e) See Table B-13.

(f) See Table B-10. Mojave Division total reduced by \$85,843,000 for costs included in "Small Hydro Power Generation Facilities" line

**TABLE B-8 SWP Capital Costs of Requested Delivery Structures**

| Project Service Area and Water Supply Contractors                        | (in dollars) Calendar Year Capital Costs (a) |                |                |                |                |             |                   |
|--|--|----------------|----------------|----------------|----------------|-------------|-------------------|
|  | 1952-2011<br>[1]                             | 2012<br>[2]    | 2013<br>[3]    | 2014<br>[4]    | 2015<br>[5]    | 2016<br>[6] | Total<br>[7]      |
| <b>FEATHER RIVER AREA</b>  |  |                |                |                |                |             |                   |
| County of Butte  | 261,979                                      | 0              | 0              | 0              | 0              | 0           | 261,979           |
| Plumas County Flood Control and Water Conservation District              | 8,723  | 0              | 0              | 0              | 0              | 0           | 8,723             |
| Thermalito Irrigation District (b)                                       | 43,939                                       | 0              | 0              | 0              | 0              | 0           | 43,939            |
| <b>Subtotal</b>  | <b>314,641</b>                               | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>    | <b>314,641</b>    |
| <b>NORTH BAY AREA</b>  |  |                |                |                |                |             |                   |
| Napa County Flood Control and Water Conservation District                | 13,590                                       | 0              | 0              | 0              | 0              | 0           | 13,590            |
| Solano County Water Agency   | 662,113                                      | 0              | 0              | 0              | 0              | 0           | 662,113           |
| <b>Subtotal</b>  | <b>675,703</b>                               | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>    | <b>675,703</b>    |
| <b>SOUTH BAY AREA</b>  |  |                |                |                |                |             |                   |
| Alameda County Flood Control and Water Conservation District, Zone 7 (d) | 1,527,905                                    | 354,768        |                | 15,000         | 15,000         | 0           | 1,912,673         |
| Alameda County Water District (d)  | 613,576                                      | 17,000         |                | 0              | 0              | 0           | 630,576           |
| Santa Clara Valley Water District  | 21,500                                       | 0              | 0              | 20,000         | 10,000         | 0           | 51,500            |
| San Francisco Water Department (b)                                       | 1,066,680                                    | 0              | 0              | 0              | 0              | 0           | 1,066,680         |
| <b>Subtotal</b>  | <b>3,229,661</b>                             | <b>371,768</b> | <b>0</b>       | <b>35,000</b>  | <b>25,000</b>  | <b>0</b>    | <b>3,661,429</b>  |
| <b>CENTRAL COASTAL AREA</b>  |  |                |                |                |                |             |                   |
| San Luis Obispo County Flood Control and Water Conservation District     | 26,204                                       | 0              | 0              | 0              | 0              | 0           | 26,204            |
| Santa Barbara County Flood Control and Water Conservation District       | 67,058                                       | 0              | 0              | 0              | 0              | 0           | 67,058            |
| <b>Subtotal</b>  | <b>93,262</b>                                | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>       | <b>0</b>    | <b>93,262</b>     |
| <b>SAN JOAQUIN VALLEY AREA</b>   |  |                |                |                |                |             |                   |
| Castaic Lake Water Agency  | 82,567                                       | 0              | 0              | 0              | 0              | 0           | 82,567            |
| County of Kings  | 17,206                                       | 4              | 4              | 10,000         | 10,000         | 0           | 37,214            |
| Dudley Ridge Water District  | 304,541                                      | 0              | 0              | 30,000         | 15,000         | 0           | 349,541           |
| Empire West Side Irrigation District                                     | 6,358  | 0              | 0              | 0              | 0              | 0           | 6,358             |
| Green Valley Water District (c)  | 5,292  | 0              | 0              | 0              | 0              | 0           | 5,292             |
| Kern County Water Agency   | 3,445,444                                    | 415,782        | 129,193        | 40,000         | 50,000         | 0           | 4,080,419         |
| Oak Flat Water District  | 97,643                                       | 0              | 0              | 0              | 0              | 0           | 97,643            |
| Tracy Golf and Country Club (c)  | 6,932  | 0              | 0              | 0              | 0              | 0           | 6,932             |
| Tulare Lake Basin Water Storage District                                 | 277,483                                      | 0              | 0              | 0              | 0              | 0           | 277,483           |
| Veterans Administration Cemetery (b)                                     | 3,342  | 0              | 0              | 0              | 0              | 0           | 3,342             |
| <b>Subtotal</b>  | <b>4,246,808</b>                             | <b>415,786</b> | <b>129,197</b> | <b>80,000</b>  | <b>75,000</b>  | <b>0</b>    | <b>4,946,791</b>  |
| <b>SOUTHERN CALIFORNIA AREA</b>  |  |                |                |                |                |             |                   |
| Antelope Valley-East Kern Water Agency                                   | 936,779                                      | 101,418        | 57,721         | 110,000        | 50,000         | 0           | 1,255,918         |
| Castaic Lake Water Agency  | 375,593                                      | 0              | 0              | 0              | 0              | 0           | 375,593           |
| Coachella Valley Water District  | 14,206                                       | 0              | 0              | 0              | 0              | 0           | 14,206            |
| Crestline-Lake Arrowhead Water Agency                                    | 25,298                                       | 0              | 0              | 0              | 0              | 0           | 25,298            |
| Desert Water Agency  | 23,438                                       | 0              | 0              | 0              | 0              | 0           | 23,438            |
| Littlerock Creek Irrigation District                                     | 23,732                                       | 0              | 0              | 0              | 0              | 0           | 23,732            |
| Mojave Water Agency  | 295,615                                      | 13,415         | 12             | 0              | 0              | 0           | 309,042           |
| Palmdale Water District  | 34,173                                       | 0              | 0              | 0              | 0              | 0           | 34,173            |
| San Bernardino Valley Municipal Water District                           | 960,685                                      | 0              | 0              | 0              | 0              | 0           | 960,685           |
| San Gabriel Valley Municipal Water District                              | 131,052                                      | 0              | 0              | 0              | 0              | 0           | 131,052           |
| San Gorgonio Pass Water Agency   | 118,558                                      | 0              | 1,096          | 15,000         | 20,000         | 0           | 154,654           |
| The Metropolitan Water District of Southern California                   | 4,814,078                                    | 2,012          | 1,519          | 10,000         | 5,000          | 0           | 4,832,609         |
| Ventura County Flood Control District                                    | 79,699                                       | 0              | 0              | 0              | 0              | 0           | 79,699            |
| <b>Subtotal</b>  | <b>7,832,906</b>                             | <b>116,845</b> | <b>60,348</b>  | <b>135,000</b> | <b>75,000</b>  | <b>0</b>    | <b>8,220,099</b>  |
| <b>TOTAL</b>   | <b>16,392,981</b>                            | <b>904,399</b> | <b>189,545</b> | <b>250,000</b> | <b>175,000</b> | <b>0</b>    | <b>17,911,925</b> |

(a) Approximate only, not to be construed as invoice amounts.

(b) Not a SWP water supply contractor.

(c) Not a SWP water supply contractor, but has contracted for water.

(d) South Bay Aqueduct Enlargement and Improvement actual costs for 2012.

**TABLE B-9 Capital Costs of Requested Excess Peaking Capacity**

(in dollars unless otherwise indicated)

Sheet 1 of 2

| Calendar Year   | Total Advance Payments and Credits for Excess Capacity | Total Incremental Costs for Excess Capacity | Over payment (+) or Under payment (-) (a) | Annual Surplus Money Investment Fund Interest Rate (b) |         | Net Over or Underpayment With Interest (c) |
|---|--|---|---|--|---------|--|
|   |  |   |   | Jan-Jun  | Jul-Dec |  |
| [1]   | [2]  | [3]   | [4]                                       | [5]  | [6]     |  |
| <b>THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA</b> |  |   |   |  |         |  |
| 1965  | 0  | 158,000                                     | (158,000)                                 | 3.968%   | 4.184%  | (163,412)                                  |
| 1966  | 8,056,000  | 435,800                                     | 7,620,200                                 | 4.540%   | 5.057%  | 7,701,103                                  |
| 1967  | 9,094,963  | 1,878,270                                   | 7,216,693                                 | 4.815%   | 4.744%  | 15,524,533                                 |
| 1968  | 1,523,252  | 2,887,351                                   | (1,364,099)                               | 5.330%   | 5.540%  | 14,959,187                                 |
| 1969  | 8,310,651  | 3,059,310                                   | 5,251,341                                 | 5.946%   | 6.389%  | 21,369,973                                 |
| 1970  | 3,426,736  | 2,397,102                                   | 1,029,634                                 | 7.071%   | 7.125%  | 23,986,083                                 |
| 1971  | 1,086,045  | 1,146,648                                   | (60,603)                                  | 5.154%   | 5.580%  | 25,238,017                                 |
| 1972  | (4,244,807)  | 487,394                                     | (4,732,201)                               | 4.477%   | 4.977%  | 21,532,965                                 |
| 1973  | (15,913,829)   | 25,041                                      | (15,938,870)                              | 6.023%   | 8.717%  | 6,014,116                                  |
| 1974  | 0  | 37,775                                      | (37,775)                                  | 9.222%   | 10.351% | 6,576,393                                  |
| 1975  | 0  | 2,085                                       | (2,085)                                   | 7.089%   | 6.791%  | 7,038,515                                  |
| 1976  | 0  | 0   | 0   | 6.048%   | 6.021%  | 7,469,662                                  |
| 1977  | 0  | 0   | 0   | 5.788%   | 6.182%  | 7,923,403                                  |
| 1978  | 0  | 0   | 0   | 7.171%   | 8.096%  | 8,539,736                                  |
| 1979  | 0  | 0   | 0   | 8.979%   | 9.671%  | 9,354,605                                  |
| 1980  | 0  | 0   | 0   | 11.500%  | 11.500% | 10,461,314                                 |
| Total   | 11,339,011   | 12,514,776                                  | (1,175,765)                               | -  | -       | 10,461,314                                 |
| <b>SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT</b>            |  |   |   |  |         |  |
| 1967  | 0  | 25,730                                      | (25,730)                                  | 4.815%   | 4.744%  | (26,611)                                   |
| 1968  | 184,422  | 44,053                                      | 140,369                                   | 5.330%   | 5.540%  | 117,587                                    |
| 1969  | 49,052   | 38,075                                      | 10,977                                    | 5.946%   | 6.389%  | 136,751                                    |
| 1970  | 44,911   | 17,959                                      | 26,952                                    | 7.071%   | 7.125%  | 175,186                                    |
| 1971  | 61,588   | 5,900                                       | 55,688                                    | 5.154%   | 5.580%  | 242,927                                    |
| 1972  | (20,263)   | 6,835                                       | (27,098)                                  | 4.477%   | 4.977%  | 226,230                                    |
| 1973  | (180,465)  | 0   | (180,465)                                 | 6.023%   | 8.717%  | 49,198                                     |
| 1974  | 0  | 0   | 0   | 9.222%   | 10.351% | 54,130                                     |
| 1975  | 0  | 0   | 0   | 7.089%   | 6.791%  | 57,952                                     |
| 1976  | 0  | 0   | 0   | 6.048%   | 6.021%  | 61,501                                     |
| 1977  | 0  | 0   | 0   | 5.788%   | 6.182%  | 65,237                                     |
| 1978  | 0  | 0   | 0   | 7.171%   | 8.096%  | 70,312                                     |
| 1979  | 0  | 0   | 0   | 8.979%   | 9.671%  | 77,021                                     |
| 1980  | 0  | 0   | 0   | 11.500%  | 11.500% | 86,133                                     |
| Total   | 139,245  | 138,552                                     | 693                                       | -  | -       | 86,133                                     |
| <b>ANTELOPE VALLEY-EAST KERN WATER AGENCY</b>                 |  |   |   |  |         |  |
| 1968  | 85,495   | 1,645                                       | 83,850                                    | 5.330%   | 5.540%  | 86,962                                     |
| 1969  | 52,625   | 6,326                                       | 46,299                                    | 5.946%   | 6.389%  | 140,964                                    |
| 1970  | 101,648  | 15,076                                      | 86,572                                    | 7.071%   | 7.125%  | 243,222                                    |
| 1971  | 34,062   | 11,748                                      | 22,314                                    | 5.154%   | 5.580%  | 279,673                                    |
| 1972  | (12,794)   | 2,018                                       | (14,812)                                  | 4.477%   | 4.977%  | 277,552                                    |
| 1973  | (205,354)  | 308   | (205,662)                                 | 6.023%   | 8.717%  | 77,288                                     |
| 1974  | 0  | 96  | (96)                                      | 9.222%   | 10.351% | 84,933                                     |
| 1975  | 0  | 0   | 0   | 7.089%   | 6.791%  | 90,929                                     |
| 1976  | 0  | 190   | (190)                                     | 6.048%   | 6.021%  | 96,300                                     |
| 1977  | 0  | 0   | 0   | 5.788%   | 6.182%  | 102,150                                    |
| 1978  | 0  | 0   | 0   | 7.171%   | 8.096%  | 110,096                                    |
| 1979  | 0  | 0   | 0   | 8.979%   | 9.671%  | 120,601                                    |
| 1980  | 0  | 0   | 0   | 11.500%  | 11.500% | 134,869                                    |
| Total   | 55,682   | 37,407                                      | 18,275                                    | -  | -       | 134,869                                    |

(a) Overpayment or underpayment for each calendar year - column (1) minus column (2).

(b) Interest rates shown are annual rates. Interest is credited daily at applicable rates on funds deposited in the State's Surplus Money Investment Fund.

(c) Amounts shown are end-of-year balances. Interest on overpayments is credited at applicable Surplus Money Investment Fund Interest Rates Shown in columns (4) and (5). Interest on underpayments is charged at the 1980 Project Interest Rate of 4.584 percent.

**TABLE B-9 Capital Costs of Requested Excess Peaking Capacity**

Sheet 2 of 2

| Reach Number  | (in dollars) ANNUAL REQUIRED ADVANCE OF FUNDS                    |           |            |           |           |           |           |             |              |              |       |      |      |              | Reach Total  |  |
|---|--|-----------|------------|-----------|-----------|-----------|-----------|-------------|--------------|--------------|-------|------|------|--------------|--------------|--|
|   | Incremental Costs and Advance Payments by Calendar Year          |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
|   | 1965   | 1966      | 1967       | 1968      | 1969      | 1970      | 1971      | 1972        | 1973         | 1974         | 1975  | 1976 | 1981 | [19]         |              |  |
|   | [7]  | [8]       | [9]        | [10]      | [11]      | [12]      | [13]      | [14]        | [15]         | [16]         | [17]  | [18] | [19] | [20]         |              |  |
| <b>THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA</b> |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| <i>Incremental Costs</i>                                      |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| 8C  |  | 1,000     | 1,000      |           |           |           |           |             |              |              |       |      |      |              | 2,000        |  |
| 8D  |  | 43,500    | 43,500     |           |           |           |           |             |              |              |       |      |      |              | 87,000       |  |
| 9   |  | 27,000    | 27,000     | 13,500    |           |           |           |             |              |              |       |      |      |              | 67,500       |  |
| 10A   |  | 29,700    | 29,700     | 14,800    |           |           |           |             |              |              |       |      |      |              | 74,200       |  |
| 11B   | 10,100   | 18,300    | 18,300     | 9,200     |           |           |           |             |              |              |       |      |      |              | 55,900       |  |
| 12D   | 1,800  |           | 19,300     | 25,800    | 12,900    |           |           |             |              |              |       |      |      |              | 59,800       |  |
| 12E   | 1,800  |           |            | 12,400    | 18,800    | 10,800    |           |             |              |              |       |      |      |              | 43,800       |  |
| 13B   |  |           | 12,600     | 37,800    | 31,600    |           |           |             |              |              |       |      |      |              | 82,000       |  |
| 14A   | 2,500  | 500       | 11,100     | 80,216    | 107,504   | 124,069   | 37,519    | 6,413       | 381          | 87           |       |      |      |              | 370,289      |  |
| 14B   | 1,200  | 1,800     |            | 19,100    | 19,100    | 12,800    |           |             |              |              |       |      |      |              | 54,000       |  |
| 14C   | 1,800  | 900       |            | 13,500    | 13,500    | 9,000     |           |             |              |              |       |      |      |              | 38,700       |  |
| 15A   | 700  |           | 14,000     | 66,947    | 133,357   | 128,099   | 54,821    | 5,327       | 946          | 2,076        |       |      |      |              | 406,273      |  |
| 16A   | 700  |           | 18,900     | 137,894   | 182,000   | 211,608   | 133,927   | 26,203      | 5,767        | 6,156        |       |      |      |              | 723,155      |  |
| 17E   |  | 51,500    | 444,600    | 537,247   | 860,024   | 998,985   | 699,281   | 193,286     | 17,947       | 29,456       | 2,085 |      |      |              | 3,834,411    |  |
| 17F   | 109,100  | 261,600   | 261,600    | 261,600   | 261,600   | 239,500   |           |             |              |              |       |      |      |              | 1,395,000    |  |
| 25  |  | 964,270   | 1,650,947  | 1,426,925 | 673,041   | 221,100   | 256,165   |             |              |              |       |      |      |              | 5,192,448    |  |
| 28J   | 304,612  | 13,706    | 296,668    | 65,966    | 230,169   | 1,209,586 | 2,017,134 | 235,900     | 4,900        |              |       |      |      |              | 4,378,641    |  |
| Total   | 129,700  | 740,412   | 1,891,976  | 3,184,019 | 3,125,276 | 2,627,271 | 2,356,234 | 2,504,528   | 260,941      | 42,675       | 2,085 |      |      |              | 16,865,117   |  |
| <i>Current Adjustment</i>                                     |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| 8C through 25   | 1. Advance Payments Applied to Incremental Costs Amendment 2 (d) |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
|   | 0  | 8,056,000 | 9,094,963  | 1,523,252 | 8,310,651 | 3,426,736 | 1,086,045 | (4,244,807) | (14,381,396) |              |       |      |      | (356,668)    | 12,514,776   |  |
| 28J   | 2. Interest Credits-Amendment 2 (e)                              |           |            |           |           |           |           |             |              |              |       |      |      |              | (10,104,646) |  |
|   | 3. Advance Payments Applied to Incremental Costs Amendment 5 (f) |           |            |           |           |           |           |             |              |              |       |      |      |              | (11,637,079) |  |
|   | 0  | 1,240,000 | 1,483,180  | 2,469,325 | (927,035) | 1,729,160 | 3,215,258 | 2,967,475   | 1,690,000    | (9,488,722)  |       |      |      |              | 4,378,641    |  |
|   | 4. Interest Credits-Amendment 5 (g)                              |           |            |           |           |           |           |             |              |              |       |      |      |              | (2,721,803)  |  |
|   | 5. Net Required Advance of Funds                                 |           |            |           |           |           |           |             |              |              |       |      |      |              | (h)          |  |
|   | 0  | 9,296,000 | 10,578,143 | 3,992,577 | 7,383,616 | 5,155,896 | 4,301,303 | (1,277,332) | (14,233,829) | (12,210,525) |       |      |      | (10,461,314) | 2,524,535    |  |
| <b>SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT</b>            |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| <i>Incremental Costs</i>                                      |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| 25  |  | 25,730    | 44,053     | 38,075    | 17,959    | 5,900     | 6,835     |             |              |              |       |      |      |              | 138,552      |  |
|   |  | 25,730    | 44,053     | 38,075    | 17,959    | 5,900     | 6,835     |             |              |              |       |      |      |              | 138,552      |  |
| 1. Advance Payments Applied to Incremental Costs (d)          |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
|   | 0  | 184,422   | 49,052     | 44,911    | 61,588    | (20,263)  | (174,133) |             |              |              |       |      |      | (7,025)      | 138,552      |  |
| 2. Interest Credit  |  |           |            |           |           |           |           |             |              |              |       |      |      |              | (79,108)     |  |
| 3. Net Required Advance of Funds                              |  |           |            |           |           |           |           |             |              |              |       |      |      |              | (85,440)     |  |
|   | 0  | 184,422   | 49,052     | 44,911    | 61,588    | (20,263)  | (180,465) |             |              |              |       |      |      | (h)          | 53,112       |  |
| <b>ANTELOPE VALLEY-EAST KERN WATER AGENCY</b>                 |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| <i>Incremental Costs</i>                                      |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
| 29A   |  | 1,645     | 6,326      | 13,376    | 10,048    | 2,018     | 308       | 96          | 190          |              |       |      |      |              | 34,007       |  |
| 29F   |  |           | 1,700      | 1,700     |           |           |           |             |              |              |       |      |      |              | 3,400        |  |
|   |  | 1,645     | 6,326      | 15,076    | 11,748    | 2,018     | 308       | 96          | 190          |              |       |      |      |              | 37,407       |  |
| 1. Advance Payments Applied to Incremental Costs (d)          |  |           |            |           |           |           |           |             |              |              |       |      |      |              |              |  |
|   | 85,495   | 52,625    | 101,648    | 34,062    | (12,794)  | (189,120) | 0         | 0           | 0            | (34,509)     |       |      |      |              | 37,407       |  |
| 2. Interest Credit  |  |           |            |           |           |           |           |             |              |              |       |      |      |              | (100,360)    |  |
| 3. Net Required Advance of Funds                              |  |           |            |           |           |           |           |             |              |              |       |      |      |              | (116,594)    |  |
|   | 85,495   | 52,625    | 101,648    | 34,062    | (12,794)  | (205,354) | 0         | 0           | 0            | (134,869)    |       |      |      |              | (79,187)     |  |

(d) Actual payments are shown for 1965 through 1976 with 1981 adjusted to reflect overpayments and underpayments without interest for prior years.

(e) Interest for overpayments and underpayments under provisions of Amendment 2 of the contract.

(f) Actual payments are shown for 1965 through 1973 with 1974 adjusted to reflect overpayments and underpayments without interest for prior years.

(g) Interest for overpayments and underpayments under provisions of Amendment 5 of the contract.

(h) Amounts in excess of incremental costs, under the provisions of the contract, reduce the Transportation Charge capital cost component of the Agency's Statement of Charges for January 1981.

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 1 of 8

| Calendar Year | Upper Feather Division | North Bay Aqueduct |            |           |            |             | South Bay Aqueduct |           |            |            |
|---------------|------------------------|--------------------|------------|-----------|------------|-------------|--------------------|-----------|------------|------------|
|               |                        | Reach 1            | Reach 2    | Reach 3A  | Reach 3B   | Total       | Reach 1            | Reach 2   | Reach 4    | Reach 5    |
| [1]           | [2]                    | [3]                | [4]        | [5]       | [6]        | [7]         | [8]                | [9]       | [10]       |            |
| 1952          | 0                      | 0                  | 0          | 0         | 0          | 0           | 97                 | 34        | 30         | 57         |
| 1953          | 0                      | 0                  | 0          | 0         | 0          | 0           | 477                | 166       | 144        | 297        |
| 1954          | 0                      | 0                  | 0          | 0         | 0          | 0           | 1,466              | 508       | 437        | 959        |
| 1955          | 0                      | 0                  | 0          | 0         | 0          | 0           | 1,944              | 674       | 560        | 1,266      |
| 1956          | 0                      | 0                  | 0          | 0         | 0          | 0           | 18,789             | 6,515     | 5,090      | 12,545     |
| 1957          | 0                      | 13,290             | 3,391      | 0         | 9,953      | 26,634      | 45,090             | 15,639    | 12,285     | 33,218     |
| 1958          | 2                      | 19,202             | 5,011      | 0         | 25,798     | 50,011      | 195,985            | 80,961    | 7,714      | 21,930     |
| 1959          | 14                     | 7,517              | 2,118      | 0         | 17,653     | 27,288      | 496,140            | 148,516   | 24,945     | 17,118     |
| 1960          | 28                     | 8,797              | 4,292      | 0         | 4,838      | 17,927      | 1,130,378          | 67,351    | 71,779     | 68,028     |
| 1961          | 10                     | 1,551              | 10,318     | 0         | 2,526      | 14,395      | 3,273,247          | 180,596   | 307,885    | 74,398     |
| 1962          | 32                     | 217                | (1,751)    | 0         | 414        | (1,120)     | 1,548,884          | 203,535   | 695,446    | 35,102     |
| 1963          | 51                     | 2,510              | (1,063)    | 0         | 983        | 2,430       | 480,716            | 69,182    | 2,284,291  | 206,587    |
| 1964          | 7,791                  | 39,879             | 12,046     | 0         | 21,934     | 73,859      | 2,549,118          | 15,903    | 181,900    | 264,410    |
| 1965          | 3,139                  | 72,793             | 17,900     | 0         | 170,361    | 261,054     | 807,505            | 153,454   | 85,425     | 447,830    |
| 1966          | (48)                   | 59,615             | 12,972     | 0         | 438,949    | 511,536     | 898,074            | 149,529   | 142,096    | 1,690,200  |
| 1967          | 47                     | 47,257             | 11,597     | 0         | 1,551,023  | 1,609,877   | 607,614            | 50,423    | 293,304    | 3,496,284  |
| 1968          | 51,573                 | 70,586             | 19,560     | 0         | 831,158    | 921,304     | 965,119            | 19,543    | 89,300     | 2,931,101  |
| 1969          | 234,232                | 63,650             | 23,628     | 0         | 46,428     | 133,706     | 455,173            | 9,618     | 3,860      | 896,727    |
| 1970          | 16,227                 | 59,090             | 42,733     | 0         | 9,415      | 111,238     | 52,481             | 3,380     | 10,517     | 154,358    |
| 1971          | 27,204                 | 20,819             | 31,516     | 0         | 8,480      | 60,815      | 24,505             | 4,645     | 5,035      | 20,395     |
| 1972          | 9                      | 15,538             | 12,952     | 0         | 10,058     | 38,548      | 26,918             | 825       | 2,945      | 26,090     |
| 1973          | 25                     | 18,488             | 29,018     | 0         | 39,878     | 87,384      | 24,468             | 4,010     | 6,016      | 12,708     |
| 1974          | 45                     | 67,352             | 29,978     | 0         | 134,332    | 231,662     | 17,108             | 1,192     | 1,765      | 65,587     |
| 1975          | 21                     | 62,855             | 73,112     | 0         | 45,091     | 181,058     | 57,619             | 561       | 1,165      | 7,291      |
| 1976          | 51                     | 52,419             | 75,611     | 218       | 13,168     | 141,416     | 104,242            | 2,846     | 8,915      | 12,701     |
| 1977          | 28                     | 53,274             | 65,662     | 2,240     | 23,138     | 144,314     | 176,062            | 3,625     | 3,225      | 16,158     |
| 1978          | 38                     | 61,936             | 57,158     | 2,955     | 28,987     | 151,036     | 264,581            | 4,494     | 3,668      | 14,028     |
| 1979          | 23                     | 316,620            | 91,367     | 3,953     | 62,240     | 474,180     | 111,106            | 17,151    | 8,515      | 31,725     |
| 1980          | 26                     | 422,804            | 111,600    | 19,910    | 96,125     | 650,439     | 368,942            | 17,708    | 8,249      | 38,045     |
| 1981          | 34                     | 430,992            | 147,295    | (10,752)  | 43,157     | 610,692     | (145,428)          | 3,600     | 6,533      | 12,448     |
| 1982          | 11                     | 934,812            | 357,720    | (7,165)   | 134,408    | 1,419,775   | (44,778)           | 18,971    | 7,451      | 37,824     |
| 1983          | 19                     | 1,091,091          | 1,076,627  | 2,628     | 517,615    | 2,687,961   | 429,225            | 73,925    | 38,185     | 72,415     |
| 1984          | 26                     | 1,875,968          | 2,317,661  | 3,290     | 1,068,363  | 5,265,282   | 506,951            | 36,354    | 9,610      | 92,846     |
| 1985          | 29                     | 2,248,491          | 7,849,886  | 27,815    | 3,416,370  | 13,542,562  | 34,103             | 2,822     | 5,034      | 27,138     |
| 1986          | 31                     | 16,420,238         | 10,020,277 | 1,309,599 | 1,819,349  | 29,569,463  | 85,732             | 14,715    | 17,144     | 13,982     |
| 1987          | 32                     | 11,873,826         | 7,214,307  | 1,628,932 | 1,670,596  | 22,387,661  | 126,377            | 15,693    | 27,881     | 32,931     |
| 1988          | 55                     | 3,287,756          | 1,648,431  | 1,015,971 | 666,821    | 6,638,979   | 290,505            | 36,744    | 51,786     | 25,078     |
| 1989          | 44                     | 1,056,583          | 950,985    | 224,567   | 374,886    | 2,607,021   | 130,609            | 16,848    | 35,518     | 12,582     |
| 1990          | 63                     | 493,522            | 537,881    | 145,694   | 71,938     | 1,249,035   | 275,732            | 32,387    | 99,251     | 40,263     |
| 1991          | 54                     | 76,599             | 17,130     | 24,846    | 70,542     | 189,117     | 1,153,109          | 26,900    | 53,613     | 21,889     |
| 1992          | 42                     | 56,492             | 6,525      | 18,333    | 37,778     | 119,128     | 401,906            | 53,036    | 61,799     | 51,386     |
| 1993          | 30                     | 104,317            | 24,579     | 40,129    | 82,032     | 251,057     | 313,476            | 55,679    | 79,149     | 39,293     |
| 1994          | 14                     | 68,065             | 13,463     | 27,107    | 45,909     | 154,544     | (211,712)          | 29,017    | 362,585    | 36,350     |
| 1995          | 3                      | 26,002             | 5,920      | 7,337     | 20,617     | 59,876      | 265,751            | 42,516    | 48,189     | 21,436     |
| 1996          | 0                      | 14,790             | 3,334      | 6,614     | 14,606     | 39,344      | 139,573            | 13,049    | 25,751     | 10,677     |
| 1997          | 3                      | 67,264             | 35,545     | 38,585    | (13,571)   | 127,823     | 203,476            | 31,135    | 36,986     | 16,906     |
| 1998          | 7                      | 15,410             | 6,392      | 6,797     | 10,396     | 38,995      | 67,974             | 6,120     | 14,731     | 4,616      |
| 1999          | 2                      | 71,950             | 35,515     | 33,879    | 32,613     | 173,957     | 162,161            | 25,329    | 35,716     | 24,347     |
| 2000          | 24                     | 29,992             | 8,327      | 11,710    | 4,156      | 54,185      | 100,654            | 15,688    | 24,144     | 19,652     |
| 2001          | 20                     | 10,597             | 3,904      | 3,892     | 1,954      | 20,347      | 436,756            | 4,272     | 118,836    | 4,207      |
| 2002          | 14                     | 27,018             | 18,971     | 15,254    | 4,614      | 65,857      | 3,068,535          | 5,648     | 329,244    | 64,425     |
| 2003          | 0                      | 14,733             | 9,243      | 4,658     | 46,313     | 74,947      | 4,465,569          | 200,125   | 199,457    | 360,387    |
| 2004          | 0                      | 23,929             | 2,214      | 2,341     | 145,290    | 173,774     | 1,257,335          | 120,340   | 131,702    | 99,547     |
| 2005          | 0                      | 89,369             | 216        | 9         | 393,413    | 401,149     | 6,234,944          | 104,404   | 441,736    | 14,866,232 |
| 2006          | 5                      | 28,336             | 298        | 145       | 879,439    | 908,219     | 2,840,723          | 68,417    | 259,635    | 572        |
| 2007          | 0                      | 61,402             | 40         | 35        | 3,219,048  | 3,280,524   | 3,069,791          | 15,211    | 70,835     | 1,915      |
| 2008          | 4                      | 75,166             | 6,097      | 5,347     | 7,878,430  | 7,965,040   | 5,592,562          | 35,913    | 169,940    | 5,124      |
| 2009          | 13                     | 27,617             | 866        | 463       | 1,188,847  | 1,217,792   | 9,803,255          | 1,029,805 | 1,545,796  | 2,406      |
| 2010          | 0                      | 5,236              | 259        | 240       | 395,413    | 401,149     | 6,234,944          | 104,404   | 441,736    | 14,866,232 |
| 2011          | 1                      | 11,210             | 5,672      | 5,037     | 149,646    | 171,566     | 9,878,571          | 1,578,705 | 3,734,755  | 3,419,894  |
| 2012          | 0                      | 404,424            | 4,934      | 15,200    | 222,378    | 646,936     | 7,249,013          | 764,705   | 2,261,301  | 99,746     |
| 2013          | 0                      | 560,774            | 10,873     | 25,080    | 257,110    | 853,837     | 2,299,399          | 933,573   | 638,338    | 283,535    |
| 2014          | 0                      | 1,028,652          | 3,765      | 6,812     | 494,520    | 1,533,749   | 1,789,873          | 111,097   | 404,431    | 20,979     |
| 2015          | 0                      | 373,150            | 0          | 3,448     | 179,298    | 555,896     | 186,598            | 41,284    | 165,135    | 13,851     |
| 2016          | 0                      | 161,373            | 0          | 2,448     | 77,075     | 240,896     | 46,297             | 9,884     | 39,536     | 4,939      |
| 2017          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2018          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2019          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2020          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2021          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2022          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2023          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2024          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2025          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2026          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2027          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2028          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2029          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2030          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2031          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2032          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2033          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2034          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| 2035          | 0                      | 0                  | 0          | 0         | 0          | 0           | 0                  | 0         | 0          | 0          |
| TOTAL         | 341,149                | 44,705,206         | 33,085,878 | 4,675,601 | 28,874,832 | 111,341,516 | 78,432,951         | 6,925,793 | 16,079,133 | 30,458,880 |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 2 of 8

| Calendar Year | SOUTH BAY AQUEDUCT<br>(continued) |           |           |            |             | CALIFORNIA AQUEDUCT        |            |            |             |
|---------------|-----------------------------------|-----------|-----------|------------|-------------|----------------------------|------------|------------|-------------|
|               |                                   |           |           |            |             | NORTH SAN JOAQUIN DIVISION |            |            |             |
|               | Reach 6                           | Reach 7   | Reach 8   | Reach 9    | Total       | Reach 1                    | Reach 2A   | Reach 2B   | Subtotal    |
|               | [11]                              | [12]      | [13]      | [14]       | [15]        | [16]                       | [17]       | [18]       | [19]        |
| 1952          | 8                                 | 66        | 72        | 132        | 496         | 4,012                      | 3,279      | 1,499      | 8,790       |
| 1953          | 38                                | 327       | 336       | 640        | 2,425       | 10,559                     | 8,589      | 3,964      | 23,112      |
| 1954          | 123                               | 1,005     | 1,003     | 1,954      | 7,455       | 13,796                     | 11,163     | 5,179      | 30,138      |
| 1955          | 160                               | 1,293     | 1,149     | 2,454      | 9,500       | 7,370                      | 5,952      | 2,760      | 16,082      |
| 1956          | 1,559                             | 11,959    | 11,043    | 28,372     | 95,872      | 9,880                      | 5,020      | 2,398      | 17,298      |
| 1957          | 3,659                             | 28,675    | 27,385    | 563,114    | 729,065     | 11,953                     | 5,456      | 2,612      | 20,021      |
| 1958          | 2,243                             | 17,872    | 17,385    | 560,904    | 904,994     | 18,585                     | 17,191     | 7,994      | 43,770      |
| 1959          | 357                               | 3,200     | 3,568     | 149,874    | 843,718     | 123,170                    | 100,306    | 45,510     | 268,986     |
| 1960          | 1,102                             | 2,944     | 4,498     | 359,749    | 1,705,829   | 191,408                    | 102,136    | 48,968     | 342,512     |
| 1961          | 4,726                             | 18,325    | 22,765    | (1,367)    | 3,880,575   | 153,765                    | 195,947    | 42,843     | 392,555     |
| 1962          | 17,295                            | 160,939   | 178,242   | 209,042    | 3,048,485   | 612,258                    | 491,225    | 168,218    | 1,271,701   |
| 1963          | 265,414                           | 1,250,386 | 939,832   | 129,902    | 5,626,310   | 1,993,284                  | 1,525,734  | 684,095    | 4,203,113   |
| 1964          | 100,603                           | 1,716,371 | 2,327,770 | 2,947,522  | 10,103,597  | 4,674,280                  | 2,369,858  | 700,074    | 7,744,212   |
| 1965          | 42,345                            | 368,476   | 637,266   | 1,921,844  | 4,464,145   | 5,877,189                  | 6,873,699  | 2,975,719  | 15,726,607  |
| 1966          | 17,663                            | 34,915    | 140,350   | 777,887    | 3,850,714   | 8,553,362                  | 14,112,820 | 5,677,099  | 28,343,281  |
| 1967          | (41,567)                          | 137,856   | 147,183   | 379,764    | 5,070,861   | 9,678,607                  | 10,672,113 | 6,646,739  | 26,997,459  |
| 1968          | 84,553                            | 2,130     | 68,057    | 253,152    | 4,412,955   | 6,392,664                  | 891,681    | 1,303,186  | 8,587,531   |
| 1969          | 4,279                             | 11,572    | 162,300   | 32,000     | 1,575,529   | 3,542,767                  | 792,259    | 443,924    | 4,778,950   |
| 1970          | 2,487                             | 6,820     | 20,086    | (15,718)   | 234,411     | 2,236,607                  | 149,692    | 115,578    | 2,501,877   |
| 1971          | 4,350                             | 6,923     | 17,750    | 39,084     | 122,687     | 98,138                     | 215,512    | 69,410     | 383,060     |
| 1972          | 1,084                             | 203       | 4,800     | 32,199     | 95,064      | 159,608                    | 43,721     | 7,744      | 211,073     |
| 1973          | 288                               | 989       | 7,449     | 9,693      | 65,621      | 105,581                    | 25,496     | 22,418     | 153,495     |
| 1974          | 527                               | 6,020     | 30,628    | 11,433     | 134,260     | 177,700                    | 16,627     | 45,707     | 240,034     |
| 1975          | 126                               | 679       | 1,086     | 3,464      | 71,991      | 239,144                    | 14,680     | 169,676    | 423,500     |
| 1976          | 701                               | 3,529     | 8,362     | 26,186     | 167,482     | 641,860                    | 45,533     | 65,943     | 753,336     |
| 1977          | 270                               | 1,310     | 8,651     | 24,938     | 234,239     | 274,381                    | 20,283     | 22,568     | 317,232     |
| 1978          | 231                               | 1,204     | 1,631     | 17,123     | 306,960     | 801,265                    | 36,221     | 9,714      | 847,200     |
| 1979          | 1,367                             | 1,721     | 2,134     | 7,322      | 181,041     | 1,051,792                  | 59,695     | 26,106     | 1,137,593   |
| 1980          | 1,321                             | 1,718     | 2,182     | 7,102      | 445,267     | 4,173,603                  | 96,760     | 38,789     | 4,309,152   |
| 1981          | 308                               | 1,462     | 1,398     | 5,077      | (114,602)   | (502,921)                  | 1,487,516  | 38,451     | 1,023,046   |
| 1982          | 716                               | 1,561     | 1,746     | 6,074      | 29,565      | 700,738                    | 46,501     | 22,308     | 769,547     |
| 1983          | 407                               | 5,721     | 8,143     | 23,367     | 651,388     | 706,104                    | 84,435     | 211,619    | 1,002,158   |
| 1984          | 269                               | 1,853     | 1,667     | 13,301     | 662,851     | 1,559,539                  | 41,352     | 48,478     | 1,649,369   |
| 1985          | 402                               | 1,657     | 2,129     | 6,750      | 80,035      | 677,955                    | 24,812     | 19,404     | 722,171     |
| 1986          | 1,119                             | 2,744     | 3,313     | 12,234     | 150,983     | 398,788                    | 63,830     | 35,420     | 498,038     |
| 1987          | 1,496                             | 3,081     | 3,560     | 21,842     | 232,861     | 799,672                    | 88,945     | 41,659     | 930,276     |
| 1988          | 5,706                             | 6,689     | 7,603     | 33,728     | 457,839     | 2,898,156                  | (128,051)  | (56,448)   | 2,713,657   |
| 1989          | 2,641                             | 3,878     | 4,755     | 14,489     | 221,320     | 6,898,872                  | 346,589    | 173,993    | 7,419,454   |
| 1990          | 5,092                             | 19,899    | 36,584    | 87,796     | 597,004     | 13,483,785                 | 112,002    | 2,446,232  | 16,042,019  |
| 1991          | 1,942                             | 5,059     | 7,357     | 31,682     | 1,301,551   | 13,914,632                 | 133,121    | 114,981    | 14,162,734  |
| 1992          | 1,184                             | 2,042     | 2,250     | 35,464     | 609,067     | 6,260,482                  | 241,456    | 239,437    | 6,741,375   |
| 1993          | 3,618                             | 6,028     | 8,873     | 42,200     | 548,316     | 2,542,869                  | 257,330    | 200,072    | 3,000,271   |
| 1994          | 2,897                             | 4,781     | 5,346     | 89,991     | 319,255     | 1,145,666                  | 148,396    | 88,357     | 1,382,419   |
| 1995          | 11,556                            | 3,635     | 14,769    | 24,750     | 432,602     | 1,462,211                  | 217,940    | 131,995    | 1,812,146   |
| 1996          | 3,092                             | 2,271     | 2,699     | 12,522     | 209,634     | 874,227                    | 74,153     | 41,215     | 989,595     |
| 1997          | 1,454                             | 4,141     | 3,655     | 20,589     | 318,342     | 2,064,446                  | 146,851    | 84,303     | 2,295,600   |
| 1998          | 363                               | 1,134     | (6,005)   | 5,776      | 94,709      | 729,475                    | 33,695     | 16,670     | 779,840     |
| 1999          | 1,533                             | 3,304     | 12,727    | 31,634     | 296,751     | 2,208,776                  | 88,951     | 90,639     | 2,388,366   |
| 2000          | 2,406                             | 4,944     | 5,331     | 10,755     | 183,575     | (706,517)                  | 57,503     | 40,185     | (608,829)   |
| 2001          | 91,721                            | 68,849    | 404,226   | 1,190,653  | 2,319,521   | 371,407                    | 91,792     | 8,926      | 472,124     |
| 2002          | 229,409                           | 453,259   | 1,107,580 | 2,977,939  | 8,236,039   | 388,781                    | 44,543     | 22,639     | 455,963     |
| 2003          | 67,216                            | 509,964   | 477,926   | 1,409,228  | 7,689,872   | 178,162                    | 22,779     | 13,565     | 214,507     |
| 2004          | 3,193                             | 3,100     | 39,326    | 3,276,907  | 4,931,451   | 892,410                    | 15,333     | 77,640     | 985,383     |
| 2005          | 5,341                             | 5,271     | 4,848     | 731,512    | 2,351,567   | 294,112                    | 40,135     | 98,505     | 432,751     |
| 2006          | 1,298                             | 1,355     | 1,364     | 15,425     | 3,188,790   | 421,610                    | 15,229     | 178,089    | 614,929     |
| 2007          | 7,478                             | 7,479     | 7,478     | 10,751     | 3,190,938   | 472,317                    | 58,266     | 122,056    | 652,639     |
| 2008          | 8,421                             | 8,737     | 8,938     | 12,436     | 5,842,071   | 1,183,116                  | 39,837     | 85,661     | 1,308,614   |
| 2009          | 3,153                             | 3,389     | 3,470     | 5,076      | 12,396,350  | 545,687                    | 42,671     | 30,960     | 619,318     |
| 2010          | 786                               | 792       | 1,186     | 21,650,862 | 160,038     | 9,126                      | 2,869      | 172,033    |             |
| 2011          | 1,967                             | 3,317     | 1,955     | 4,056      | 18,623,221  | 677,231                    | 64,980     | 12,400     | 754,611     |
| 2012          | 35,194                            | 96,457    | 47,814    | 366,205    | 10,920,435  | 1,357,074                  | 204,266    | 69,909     | 1,631,248   |
| 2013          | 114,193                           | 75,171    | 322,552   | 808,352    | 5,475,113   | 7,411,129                  | 498,969    | 159,362    | 8,069,459   |
| 2014          | 58,145                            | 58,276    | 58,157    | 84,452     | 2,585,410   | 3,674,635                  | 230,711    | 5,026,928  | 8,932,274   |
| 2015          | 41,284                            | 41,284    | 41,284    | 59,298     | 590,018     | 5,147,483                  | 121,338    | 60,669     | 5,329,490   |
| 2016          | 9,884                             | 9,884     | 9,884     | 14,197     | 144,505     | 679,582                    | 86,173     | 43,087     | 808,842     |
| 2017          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2018          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2019          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2020          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2021          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2022          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2023          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2024          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2025          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2026          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2027          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2028          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2029          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2030          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2031          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2032          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2033          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2034          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| 2035          | 0                                 | 0         | 0         | 0          | 0           | 0                          | 0          | 0          | 0           |
| TOTAL         | 1,244,196                         | 5,231,895 | 7,460,448 | 19,977,460 | 165,810,756 | 133,800,317                | 44,062,122 | 29,398,670 | 207,261,108 |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 3 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |             |             |           |             |             |                            | SOUTH SAN JOAQUIN DIVISION |            |  |
|---------------|---------------------------------|-------------|-------------|-----------|-------------|-------------|----------------------------|----------------------------|------------|--|
|               | SAN LUIS DIVISION               |             |             |           |             |             | SOUTH SAN JOAQUIN DIVISION |                            |            |  |
|               | Reach 3                         | Reach 4     | Reach 5     | Reach 6   | Reach 7     | Subtotal    | Reach 8C                   | Reach 8D                   | Reach 9    |  |
|               | [20]                            | [21]        | [22]        | [23]      | [24]        | [25]        | [26]                       | [27]                       | [28]       |  |
| 1952          | 2,492                           | 3,549       | 3,987       | 1,010     | 1,390       | 12,428      | 13                         | 727                        | 1,109      |  |
| 1953          | 6,999                           | 10,144      | 10,986      | 2,834     | 3,869       | 34,832      | 45                         | 2,671                      | 4,185      |  |
| 1954          | 8,704                           | 12,545      | 13,693      | 3,520     | 4,766       | 43,228      | 50                         | 2,719                      | 4,026      |  |
| 1955          | 4,273                           | 6,055       | 6,813       | 1,728     | 2,325       | 21,194      | 19                         | 888                        | 1,100      |  |
| 1956          | 3,295                           | 5,600       | 5,857       | 1,445     | 3,556       | 19,753      | 98                         | 3,850                      | 4,376      |  |
| 1957          | 3,543                           | 6,115       | 6,357       | 1,565     | 3,998       | 21,578      | 234                        | 10,604                     | 13,209     |  |
| 1958          | 11,927                          | 19,393      | 22,037      | 5,509     | 7,512       | 66,378      | 375                        | 19,033                     | 25,073     |  |
| 1959          | 21,979                          | 37,358      | 39,689      | 9,813     | 19,679      | 128,518     | 436                        | 20,578                     | 25,697     |  |
| 1960          | 207,025                         | 45,419      | 41,044      | 12,074    | 37,633      | 343,195     | 1,673                      | 44,565                     | 25,290     |  |
| 1961          | 184,443                         | 292,639     | 170,559     | 38,338    | 70,068      | 756,047     | 3,949                      | 75,726                     | 30,852     |  |
| 1962          | 495,836                         | 549,984     | 252,698     | 22,397    | 26,967      | 1,347,882   | 6,131                      | 159,481                    | 62,375     |  |
| 1963          | 2,772,189                       | 2,034,351   | 2,498,712   | 66,353    | 30,647      | 7,402,252   | 5,861                      | 161,252                    | 81,343     |  |
| 1964          | 4,348,311                       | 4,932,301   | 1,053,227   | 161,422   | 251,461     | 10,746,722  | 4,014                      | 90,622                     | 117,907    |  |
| 1965          | 3,860,997                       | 5,688,252   | 2,869,931   | 1,072,111 | 667,768     | 14,159,059  | 15,049                     | 491,042                    | 564,036    |  |
| 1966          | 2,312,372                       | 8,527,843   | 5,765,798   | 4,230,221 | 7,708,334   | 28,644,568  | 201,274                    | 5,197,322                  | 2,539,278  |  |
| 1967          | (44,527)                        | 2,062,305   | 6,942,522   | 222,885   | 6,675,398   | 15,858,583  | 212,285                    | 4,962,844                  | 3,363,650  |  |
| 1968          | 119,884                         | 395,689     | 973,956     | 179,917   | 461,031     | 2,130,477   | 64,234                     | 611,192                    | 940,074    |  |
| 1969          | (6,065)                         | 126,946     | 98,492      | 107,486   | 160,668     | 487,527     | 58,960                     | 116,146                    | 85,130     |  |
| 1970          | 32,387                          | (20,243)    | 105,385     | (827,457) | 1,215,966   | 506,038     | 23,011                     | 106,810                    | 84,116     |  |
| 1971          | 99,945                          | 230,624     | 305,227     | 26,995    | 341,010     | 1,003,801   | 8,813                      | 33,099                     | 23,088     |  |
| 1972          | 15,990                          | 90,852      | 17,053      | 14,621    | 281,343     | 419,859     | 10,818                     | 13,349                     | 16,603     |  |
| 1973          | 6,753                           | 103,707     | 41,549      | 13,810    | 41,427      | 207,246     | 5,145                      | 11,089                     | 13,249     |  |
| 1974          | 6,618                           | 117,165     | 55,978      | 16,199    | 71,796      | 267,756     | 5,434                      | 24,433                     | 16,567     |  |
| 1975          | 18,921                          | 107,275     | 23,671      | 8,797     | 152,574     | 311,238     | 5,424                      | 15,960                     | 12,966     |  |
| 1976          | 17,485                          | 79,554      | 13,041      | 5,138     | 41,687      | 156,905     | 19,931                     | 76,280                     | 62,164     |  |
| 1977          | 35,707                          | 84,669      | 9,412       | 4,028     | 9,655       | 143,471     | 21,096                     | 70,005                     | 97,952     |  |
| 1978          | 8,539                           | 428,395     | 7,006       | 3,536     | 6,994       | 454,470     | 7,584                      | 40,453                     | 17,395     |  |
| 1979          | (35,394)                        | 543,225     | 19,463      | 9,485     | (242,253)   | 294,526     | 10,474                     | 6,181                      | 6,227      |  |
| 1980          | 66,622                          | 3,450,695   | 191,307     | 75,209    | 185,384     | 3,969,217   | 2,158                      | 17,492                     | 17,706     |  |
| 1981          | 28,491                          | (2,244,127) | (44,017)    | (15,456)  | 918,984     | (1,356,125) | 1,151                      | 9,642                      | 9,541      |  |
| 1982          | 100,629                         | (1,616,569) | 20,184      | 10,359    | 3,525,738   | 2,040,341   | 2,469                      | 8,283                      | 6,956      |  |
| 1983          | 75,639                          | 33,881      | 11,785      | 6,638     | 1,811,638   | 1,939,581   | 7,955                      | 13,782                     | 11,090     |  |
| 1984          | 31,748                          | 87,083      | 26,712      | 12,754    | 3,053,662   | 3,211,959   | 26,489                     | 9,959                      | 6,268      |  |
| 1985          | 53,251                          | 56,732      | 13,685      | 6,934     | 582,910     | 713,512     | 7,220                      | 9,762                      | 7,688      |  |
| 1986          | 73,979                          | 201,509     | 50,668      | 19,223    | 1,282,469   | 1,627,848   | 8,902                      | 25,011                     | 20,503     |  |
| 1987          | (7,829)                         | 116,268     | 40,009      | 15,946    | 518,349     | 682,743     | 12,744                     | 18,927                     | 56,042     |  |
| 1988          | (149,385)                       | 224,154     | (406,398)   | (137,353) | 923,622     | 454,640     | 9,833                      | (119,741)                  | (60,639)   |  |
| 1989          | 39,652                          | 594,894     | 232,852     | 80,090    | 575,855     | 1,523,343   | 5,279                      | 91,501                     | 278,061    |  |
| 1990          | 39,270                          | 259,895     | 79,589      | 29,606    | 461,219     | 869,579     | 5,814                      | 41,345                     | 2,016,434  |  |
| 1991          | 4,916,134                       | 397,959     | 98,847      | 35,860    | 511,519     | 5,960,319   | 4,588                      | 43,140                     | 41,348     |  |
| 1992          | (757,001)                       | 545,729     | 211,854     | 74,544    | 396,398     | 471,524     | 3,546                      | 103,695                    | 109,225    |  |
| 1993          | 110,233                         | 724,929     | 186,271     | 70,815    | 720,283     | 1,812,531   | 15,016                     | 101,634                    | 90,929     |  |
| 1994          | 1,151,976                       | 288,018     | 63,862      | 27,812    | 710,770     | 2,242,438   | 6,770                      | 42,455                     | 40,696     |  |
| 1995          | 285,776                         | 441,479     | 130,761     | 58,640    | 1,914,186   | 2,830,842   | 12,548                     | 49,963                     | 43,251     |  |
| 1996          | 31,942                          | (110,471)   | 34,529      | 12,219    | 588,712     | 556,931     | 6,444                      | 29,863                     | 27,050     |  |
| 1997          | 73,224                          | 513,793     | (277,781)   | 42,881    | 5,016,215   | 5,368,332   | 11,497                     | 49,111                     | 43,799     |  |
| 1998          | 19,692                          | 304,115     | 34,319      | 16,542    | 2,819,556   | 3,194,224   | 2,562                      | 11,115                     | 8,955      |  |
| 1999          | 18,187                          | 158,902     | 100,061     | 41,691    | 1,901,382   | 2,220,222   | 5,706                      | 25,179                     | 23,510     |  |
| 2000          | 101,618                         | 373,699     | 78,036      | 36,186    | 1,139,073   | 1,728,613   | 3,922                      | 23,591                     | 29,281     |  |
| 2001          | (10,513)                        | (47,112)    | 519,031     | (3,546)   | 61,555      | 519,455     | 2,280                      | 17,030                     | 21,196     |  |
| 2002          | 12,237                          | 24,434      | 6,079,343   | 3,454     | (2,453,483) | 3,665,985   | 3,627                      | 44,010                     | 20,221     |  |
| 2003          | 8,864                           | 79,647      | (5,377,004) | 7,923     | 2,183,795   | (3,096,775) | 2,130                      | 18,793                     | 16,716     |  |
| 2004          | (16,126)                        | (14,365)    | (50,563)    | (2,487)   | (459,225)   | (542,766)   | 22,520                     | 5,980                      | 3,879      |  |
| 2005          | 261                             | 11,360      | 129,470     | 3,529     | 995,531     | 1,140,151   | 26,301                     | 11,593                     | 6,323      |  |
| 2006          | 1,421                           | 27,658      | (10,639)    | 1,444     | (366,505)   | (346,620)   | 6,106                      | 2,942                      | 1,621      |  |
| 2007          | 2                               | 87,855      | 39,476      | 7,718     | (120,678)   | 14,373      | 13,352                     | 21,920                     | 11,909     |  |
| 2008          | 14,780                          | 16,097      | 46,719      | 13,920    | 1,110,583   | 1,202,099   | 9,017                      | 13,020                     | 7,277      |  |
| 2009          | 934                             | 216,920     | 45,727      | 5,164     | (42,304)    | 226,441     | 2,380                      | 16,160                     | 8,894      |  |
| 2010          | (16)                            | 1,560,454   | 130,995     | 655       | (347,589)   | 1,344,499   | (1)                        | 1,824                      | 989        |  |
| 2011          | 57                              | 641,814     | 479,522     | 574       | 76,704      | 1,198,671   | 3                          | 1,861                      | 1,017      |  |
| 2012          | 19                              | 198,367     | (16,225)    | 23,274    | 157,725     | 363,159     | 73                         | 50,805                     | 27,700     |  |
| 2013          | 21                              | 171,228     | 755,897     | 55,843    | 122,219     | 1,105,209   | 211                        | 123,252                    | 67,246     |  |
| 2014          | 0                               | 169,708     | 896,065     | 51,446    | 102,898     | 1,220,117   | 4,074                      | 146,974                    | 85,342     |  |
| 2015          | 0                               | 987,991     | 2,164,199   | 28,432    | 56,867      | 3,237,489   | 0                          | 52,334                     | 28,432     |  |
| 2016          | 0                               | 998,959     | 2,571,146   | 20,192    | 40,386      | 3,630,683   | 0                          | 37,167                     | 20,192     |  |
| 2017          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2018          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2019          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2020          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2021          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2022          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2023          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2024          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2025          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2026          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2027          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2028          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2029          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2030          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2031          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2032          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2033          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2034          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| 2035          | 0                               | 0           | 0           | 0         | 0           | 0           | 0                          | 0                          | 0          |  |
| TOTAL         | 20,836,418                      | 36,455,293  | 30,654,438  | 6,154,456 | 48,733,712  | 142,834,316 | 947,116                    | 13,560,296                 | 11,395,685 |  |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 4 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |            |            |           |            |             |           |           |             |
|---------------|--|------------|------------|-----------|------------|-------------|-----------|-----------|-------------|
|               | SOUTH SAN JOAQUIN DIVISION (continued) |            |            |           |            |             |           |           |             |
|               | Reach 10A                              | Reach 11B  | Reach 12D  | Reach 12E | Reach 13B  | Reach 14A   | Reach 14B | Reach 14C | Reach 15A   |
|               | [29]                                   | [30]       | [31]       | [32]      | [33]       | [34]        | [35]      | [36]      | [37]        |
| 1952          | 695                                    | 1,279      | 1,980      | 995       | 1,663      | 794         | 212       | 212       | 1,911       |
| 1953          | 2,569                                  | 4,790      | 7,480      | 3,745     | 6,236      | 2,599       | 733       | 741       | 7,016       |
| 1954          | 2,821                                  | 4,855      | 7,565      | 3,792     | 6,319      | 2,880       | 810       | 817       | 7,073       |
| 1955          | 1,097                                  | 1,557      | 2,404      | 1,211     | 2,025      | 1,183       | 325       | 327       | 2,253       |
| 1956          | 4,428                                  | 6,223      | 9,233      | 4,737     | 8,054      | 7,026       | 1,638     | 1,584     | 9,939       |
| 1957          | 13,269                                 | 18,772     | 29,082     | 14,615    | 24,411     | 15,651      | 3,834     | 3,864     | 26,871      |
| 1958          | 25,086                                 | 48,191     | 78,564     | 39,087    | 61,715     | 33,726      | 12,330    | 11,813    | 49,499      |
| 1959          | 25,787                                 | 67,246     | 107,781    | 53,836    | 86,478     | 64,824      | 22,102    | 21,828    | 70,838      |
| 1960          | 47,492                                 | 66,317     | 77,936     | 39,867    | 63,517     | 84,363      | 23,260    | 22,305    | 73,305      |
| 1961          | 68,505                                 | 46,073     | 88,274     | 51,457    | 28,015     | 242,753     | 91,290    | 65,565    | 150,205     |
| 1962          | 57,705                                 | 56,056     | 69,189     | 44,851    | 49,179     | 208,180     | 61,489    | 47,608    | 133,653     |
| 1963          | 52,585                                 | 91,914     | 173,985    | 86,405    | 67,733     | 425,626     | 104,436   | 77,970    | 102,072     |
| 1964          | 124,014                                | 333,621    | 291,013    | 174,469   | 86,271     | 1,093,795   | 684,005   | 485,033   | 571,173     |
| 1965          | 622,257                                | 1,053,029  | 1,524,848  | 1,044,851 | 196,487    | 3,385,205   | 1,655,024 | 1,436,258 | 476,830     |
| 1966          | 2,800,056                              | 3,709,779  | 673,429    | 466,228   | 418,141    | 4,916,319   | 974,862   | 724,354   | 1,829,852   |
| 1967          | 3,652,342                              | 4,636,627  | 1,881,333  | 1,244,265 | 1,238,428  | 2,788,299   | 525,653   | 400,183   | 1,721,304   |
| 1968          | 1,025,969                              | 1,323,302  | 4,726,074  | 3,145,775 | 8,343,706  | 10,210,266  | 1,330,361 | 1,405,117 | 7,522,015   |
| 1969          | 145,111                                | 229,185    | 706,272    | 529,080   | 3,704,065  | 15,112,041  | 1,223,457 | 1,134,395 | 9,523,012   |
| 1970          | 74,366                                 | 85,151     | 70,725     | 72,798    | 320,797    | 11,031,255  | 987,213   | 738,955   | 8,836,897   |
| 1971          | 15,595                                 | 45,006     | 43,988     | 42,624    | 339,078    | 2,925,191   | 193,255   | 36,514    | 3,275,227   |
| 1972          | 19,736                                 | 32,657     | 43,939     | 24,748    | 81,937     | 1,388,348   | 101,784   | 20,165    | 1,003,380   |
| 1973          | 14,283                                 | 16,448     | 9,980      | 16,320    | 25,090     | 680,834     | 19,584    | 13,469    | 798,805     |
| 1974          | 22,111                                 | 14,951     | 19,555     | 32,240    | 29,582     | 524,504     | 30,735    | 16,333    | 778,696     |
| 1975          | 15,865                                 | 13,479     | 10,793     | 13,678    | 25,827     | 269,197     | 25,674    | 21,048    | 370,265     |
| 1976          | 76,202                                 | 54,217     | 37,464     | 59,842    | 105,332    | 507,519     | 59,753    | 42,776    | 434,574     |
| 1977          | 75,628                                 | 52,919     | 22,826     | 54,444    | 81,293     | 301,515     | 49,972    | 30,152    | 235,514     |
| 1978          | 48,754                                 | 16,469     | (2,816)    | 27,331    | 43,126     | 348,674     | (653)     | 1,500     | 297,817     |
| 1979          | 241                                    | 6,906      | 13,401     | 14,229    | 25,411     | 293,786     | 9,846     | 7,856     | 245,590     |
| 1980          | 18,165                                 | 18,813     | 15,608     | 27,498    | 34,190     | 1,676,267   | 29,169    | 23,023    | 1,719,775   |
| 1981          | 10,309                                 | 14,885     | 26,473     | 20,972    | 25,515     | (1,076,221) | 27,551    | 33,674    | (1,142,721) |
| 1982          | 8,237                                  | 6,608      | 7,680      | 8,346     | 16,339     | (745,914)   | 9,886     | 29,393    | (804,147)   |
| 1983          | 14,488                                 | 9,792      | 14,174     | 13,050    | 35,872     | 419,650     | 17,389    | 24,933    | 115,983     |
| 1984          | 7,533                                  | 27,613     | 87,907     | 49,271    | 22,732     | 54,590      | 75,453    | 63,060    | 63,537      |
| 1985          | 9,215                                  | 6,949      | 5,263      | 8,013     | 8,875      | (49,408)    | 9,523     | 5,867     | 54,782      |
| 1986          | 22,335                                 | 16,664     | 16,014     | 25,031    | 20,483     | 140,642     | 25,960    | 13,913    | 154,089     |
| 1987          | 16,704                                 | 13,512     | 12,369     | 20,023    | 15,435     | 101,453     | 20,411    | 8,581     | 227,047     |
| 1988          | (159,357)                              | (73,648)   | (151,040)  | (51,401)  | (120,104)  | 161,077     | (75,276)  | (75,307)  | 144,369     |
| 1989          | 70,153                                 | 65,216     | 63,382     | 120,925   | 73,037     | 2,778,880   | 119,559   | 36,660    | 2,952,046   |
| 1990          | 34,841                                 | 29,230     | 27,269     | 49,082    | 34,048     | 715,031     | 44,187    | 14,537    | 440,017     |
| 1991          | 36,888                                 | 32,195     | 30,146     | 55,119    | 34,144     | 423,235     | 50,345    | 12,116    | 353,596     |
| 1992          | 103,321                                | 99,765     | 98,178     | 192,455   | 97,638     | 991,603     | 185,311   | 9,210     | 387,615     |
| 1993          | 90,291                                 | 70,131     | 63,247     | 118,440   | 80,530     | 687,462     | 109,792   | 38,960    | 942,211     |
| 1994          | 65,737                                 | 29,221     | 26,997     | 50,234    | 35,154     | 400,534     | 44,481    | 17,426    | 324,942     |
| 1995          | 435,909                                | 32,487     | 25,516     | 49,885    | 41,733     | 524,524     | 48,740    | 29,125    | 450,952     |
| 1996          | 253,433                                | 19,489     | 15,020     | 30,202    | 29,333     | 403,125     | 26,945    | 16,405    | 253,622     |
| 1997          | 73,458                                 | 30,890     | 25,368     | 48,767    | 40,900     | 451,910     | 47,815    | 29,878    | 809,848     |
| 1998          | 14,618                                 | 7,107      | 5,773      | 10,697    | 9,676      | 288,667     | 10,799    | 6,819     | 119,562     |
| 1999          | 47,359                                 | 17,022     | 13,362     | 34,410    | 31,539     | 260,623     | 24,634    | 14,826    | 264,538     |
| 2000          | 43,459                                 | 21,186     | 32,480     | 40,180    | 25,119     | 168,825     | 15,243    | 11,006    | 151,512     |
| 2001          | 42,731                                 | 14,471     | 22,325     | 34,995    | 8,027      | 71,645      | 4,537     | 3,988     | 66,918      |
| 2002          | 87,805                                 | 19,626     | 7,157      | 78,600    | 47,505     | 276,160     | 22,632    | 34,980    | 164,596     |
| 2003          | 22,946                                 | 9,280      | 8,935      | 18,115    | 15,308     | 136,433     | 6,671     | 9,686     | 110,492     |
| 2004          | 5,493                                  | 3,291      | 4,188      | 7,001     | 5,787      | 52,563      | 5,588     | 1,490     | 50,520      |
| 2005          | 7,316                                  | 6,332      | 12,579     | 6,307     | 6,354      | 21,617      | 12,567    | 44        | 9,079       |
| 2006          | 1,872                                  | 1,680      | 3,146      | 1,618     | 1,736      | 5,936       | 3,109     | 108       | 2,695       |
| 2007          | 13,807                                 | 11,909     | 23,818     | 11,909    | 11,910     | 40,392      | 23,818    | 1         | 16,745      |
| 2008          | 8,919                                  | 6,999      | 12,960     | 8,044     | 8,187      | 35,363      | 13,537    | 568       | 22,711      |
| 2009          | 10,504                                 | 8,926      | 16,976     | 9,236     | 9,565      | 35,656      | 17,158    | 450       | 18,753      |
| 2010          | 1,148                                  | 985        | 1,985      | 990       | 981        | 3,325       | 1,988     | (7)       | 1,362       |
| 2011          | 1,177                                  | 1,031      | 2,010      | 1,016     | 1,044      | 3,554       | 2,002     | 26        | 1,530       |
| 2012          | 32,469                                 | 27,514     | 54,437     | 28,290    | 28,359     | 111,560     | 54,891    | 316       | 57,917      |
| 2013          | 79,000                                 | 66,691     | 131,685    | 68,972    | 69,157     | 376,174     | 133,019   | 908       | 246,630     |
| 2014          | 119,000                                | 74,494     | 116,344    | 118,817   | 122,190    | 949,539     | 142,265   | 17,412    | 857,204     |
| 2015          | 32,965                                 | 28,432     | 56,867     | 28,432    | 28,432     | 348,859     | 56,867    | 0         | 292,405     |
| 2016          | 23,411                                 | 20,192     | 40,386     | 20,192    | 20,192     | 70,918      | 40,386    | 0         | 30,825      |
| 2017          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2018          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2019          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2020          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2021          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2022          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2023          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2024          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2025          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2026          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2027          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2028          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2029          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2030          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2031          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2032          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2033          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2034          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| 2035          | 0                                      | 0          | 0          | 0         | 0          | 0           | 0         | 0         | 0           |
| TOTAL         | 10,742,228                             | 12,833,999 | 11,703,282 | 8,671,252 | 16,446,840 | 68,182,603  | 9,601,425 | 7,202,818 | 48,489,142  |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 5 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |             |                    |            |             |                 |            |           |            |  |
|---------------|---------------------------------|-------------|--------------------|------------|-------------|-----------------|------------|-----------|------------|--|
|               | SOUTH SAN JOAQUIN (contd.)      |             | TEHACHAPI DIVISION |            |             | MOJAVE DIVISION |            |           |            |  |
|               | Reach 16A                       | Subtotal    | Reach 17E          | Reach 17F  | Subtotal    | Reach 18A       | Reach 19   | Reach 19C | Reach 20A  |  |
|               | [38]                            | [39]        | [40]               | [41]       | [42]        | [43]            | [44]       | [45]      | [46]       |  |
| 1952          | 4,440                           | 16,030      | 9,703              | 4,072      | 13,775      | 4,090           | 1,520      | 0         | 2,561      |  |
| 1953          | 16,513                          | 59,323      | 31,337             | 13,284     | 44,621      | 12,610          | 4,685      | 0         | 7,246      |  |
| 1954          | 16,601                          | 60,328      | 46,243             | 20,010     | 66,253      | 16,642          | 6,184      | 0         | 9,506      |  |
| 1955          | 5,223                           | 19,612      | 25,880             | 11,362     | 37,242      | 5,612           | 2,086      | 0         | 2,529      |  |
| 1956          | 21,754                          | 82,940      | 47,487             | 17,609     | 65,096      | 6,038           | 2,244      | 0         | 2,440      |  |
| 1957          | 62,657                          | 237,073     | 119,673            | 49,130     | 168,803     | 22,348          | 8,304      | 0         | 9,035      |  |
| 1958          | 133,083                         | 537,575     | 164,056            | 72,091     | 236,147     | 37,917          | 14,166     | 123       | 15,391     |  |
| 1959          | 205,748                         | 773,179     | 151,389            | 57,883     | 209,272     | 38,620          | 23,450     | 1,102     | 23,605     |  |
| 1960          | 204,788                         | 774,678     | 203,222            | 45,323     | 248,545     | 21,356          | 26,093     | 5,318     | 40,523     |  |
| 1961          | 206,305                         | 1,148,969   | 387,819            | 85,558     | 473,377     | 35,664          | 32,281     | 2,262     | 34,918     |  |
| 1962          | 171,396                         | 1,127,293   | 353,119            | 82,610     | 435,729     | 68,508          | 266,284    | 1,841     | 10,323     |  |
| 1963          | 481,941                         | 1,913,123   | 1,191,633          | 124,757    | 1,316,390   | 37,379          | 435,881    | 4,137     | 39,706     |  |
| 1964          | 1,778,952                       | 5,834,889   | 1,866,000          | 775,005    | 2,641,005   | 95,693          | 706,369    | 8,564     | 43,342     |  |
| 1965          | 1,268,176                       | 13,733,092  | 2,574,824          | 2,284,869  | 4,859,693   | 121,060         | 716,092    | 9,156     | 108,519    |  |
| 1966          | 2,896,274                       | 27,347,168  | 5,537,412          | 9,323,517  | 14,860,929  | 366,116         | 1,644,699  | 13,373    | 159,282    |  |
| 1967          | 3,442,021                       | 30,089,234  | 26,239,390         | 12,398,708 | 38,638,098  | 1,312,022       | 903,880    | 24,103    | 645,078    |  |
| 1968          | 7,578,498                       | 48,226,583  | 33,363,479         | 7,416,464  | 40,779,943  | 136,804         | 7,109,653  | 71,388    | 1,889,601  |  |
| 1969          | 13,136,056                      | 45,702,910  | 40,368,425         | 6,883,206  | 47,251,631  | 213,805         | 2,465,641  | 7,423     | 5,939,151  |  |
| 1970          | 13,890,751                      | 36,322,845  | 35,446,706         | 6,786,231  | 42,232,937  | 2,211,077       | 1,210,665  | 6,217     | 3,652,478  |  |
| 1971          | 7,903,937                       | 14,885,415  | 20,141,395         | 6,835,303  | 26,976,698  | 1,496,843       | 284,738    | 6,994     | 1,074,759  |  |
| 1972          | 3,025,555                       | 5,783,019   | 10,002,935         | 34,791     | 10,037,726  | 129,417         | 409,903    | 3,620     | 471,963    |  |
| 1973          | 1,472,313                       | 3,096,609   | 3,090,140          | 36,207     | 3,126,347   | 23,931          | 75,638     | 2,539     | 88,416     |  |
| 1974          | 1,031,843                       | 2,546,984   | 4,798,348          | 152,494    | 4,950,842   | 28,399          | 205,581    | 2,703     | 138,673    |  |
| 1975          | 489,545                         | 1,289,211   | 2,144,178          | 411,404    | 2,555,582   | 44,774          | 70,652     | 5,066     | 68,157     |  |
| 1976          | 618,049                         | 2,154,103   | 1,124,357          | 174,629    | 1,298,986   | 121,043         | 84,593     | 6,786     | 59,967     |  |
| 1977          | 580,209                         | 1,673,525   | 655,047            | 31,512     | 686,559     | 261,400         | 133,767    | 7,521     | 117,378    |  |
| 1978          | 582,775                         | 1,428,409   | 1,900,843          | 27,956     | 1,928,799   | 553,014         | 57,150     | 5,872     | 51,615     |  |
| 1979          | 542,554                         | 1,182,702   | 2,099,385          | 61,381     | 2,160,766   | 626,615         | 339,536    | 10,831    | 37,085     |  |
| 1980          | 3,772,498                       | 7,372,362   | 17,433,610         | 6,046      | 17,439,656  | 1,130,429       | 1,073,430  | 3,604     | 308,188    |  |
| 1981          | (2,527,211)                     | (4,566,440) | (3,848,206)        | 6,908      | (3,841,298) | 1,218,824       | 845,702    | 4,498     | 48,625     |  |
| 1982          | (1,850,736)                     | (3,296,600) | 11,370,112         | 6,054      | 11,376,166  | 6,968,683       | 746,900    | 3,920     | 33,869     |  |
| 1983          | 166,232                         | 864,390     | 8,862,914          | 8,269      | 8,871,183   | 10,909,386      | 64,660     | 2,596     | 40,793     |  |
| 1984          | 119,387                         | 613,799     | 3,227,937          | 31,701     | 3,259,638   | 8,340,371       | 309,491    | 3,124     | 17,505     |  |
| 1985          | 82,117                          | 165,866     | 1,926,289          | 10,460     | 1,936,749   | 5,264,156       | 227,986    | 3,885     | 68,422     |  |
| 1986          | 186,348                         | 675,895     | 1,381,955          | 33,788     | 1,415,743   | 2,049,111       | 2,069,663  | 4,261     | 2,331,707  |  |
| 1987          | 194,936                         | 718,184     | 671,183            | 13,807     | 684,990     | 1,347,722       | (6,453)    | 4,684     | 562,540    |  |
| 1988          | 262,334                         | (308,900)   | 1,408,760          | (49,734)   | 1,359,026   | 847,954         | (104,961)  | 13,409    | (159,892)  |  |
| 1989          | 5,955,356                       | 12,610,055  | 504,715            | 64,660     | 569,375     | 376,980         | 207,150    | 50,953    | 31,173     |  |
| 1990          | 640,283                         | 4,092,118   | 783,219            | 25,218     | 808,437     | 202,065         | (402,573)  | 61,192    | (637,062)  |  |
| 1991          | 774,129                         | 1,890,989   | 691,578            | 33,405     | 724,983     | 273,021         | 22,218     | 81,545    | (188,732)  |  |
| 1992          | 731,512                         | 3,113,074   | 741,986            | 24,369     | 766,355     | 620,962         | 384,568    | 86,644    | 225,398    |  |
| 1993          | 857,038                         | 3,265,681   | 1,223,402          | 35,370     | 1,258,772   | 1,131,166       | 248,287    | 72,746    | 110,869    |  |
| 1994          | 853,328                         | 1,937,975   | 806,213            | 16,681     | 822,894     | 998,126         | 164,096    | 60,147    | 51,340     |  |
| 1995          | 628,941                         | 2,373,574   | 1,538,497          | 19,443     | 1,557,940   | 390,433         | 157,481    | 45,990    | 92,925     |  |
| 1996          | 388,064                         | 1,498,995   | 2,571,039          | 10,797     | 2,581,836   | 91,593          | 69,281     | 22,188    | 35,656     |  |
| 1997          | 481,458                         | 2,144,699   | 1,009,249          | 18,265     | 1,027,514   | 135,402         | 92,607     | 13,590    | 65,433     |  |
| 1998          | 440,746                         | 937,096     | 925,574            | 6,843      | 932,417     | 47,486          | 36,170     | 4,164     | 29,900     |  |
| 1999          | 361,516                         | 1,124,225   | 662,144            | 12,166     | 674,310     | 113,232         | 49,150     | 5,329     | 171,935    |  |
| 2000          | 372,997                         | 938,802     | 408,352            | 14,333     | 422,685     | 120,267         | 90,145     | 936       | 83,478     |  |
| 2001          | 167,694                         | 477,837     | 266,815            | 10,891     | 277,706     | 65,580          | 186,973    | 2,223     | 343,775    |  |
| 2002          | 286,748                         | 1,093,668   | 247,986            | 9,586      | 257,572     | 35,787          | (139,334)  | 1,374     | (111,675)  |  |
| 2003          | 159,978                         | 535,484     | 189,022            | 12,339     | 201,361     | 84,434          | (19,049)   | 0         | (11,367)   |  |
| 2004          | 322,068                         | 490,368     | 372,622            | 4,637      | 377,259     | 19,723          | 17,430     | 0         | 18,763     |  |
| 2005          | 43,887                          | 170,299     | 2,264,602          | 6,587      | 2,271,188   | 27,020          | 18,910     | 0         | 25,134     |  |
| 2006          | 11,294                          | 43,863      | 5,855,349          | 2,353      | 5,857,702   | 7,062           | 4,978      | 0         | 6,373      |  |
| 2007          | 82,675                          | 284,166     | 3,829,554          | 11,915     | 3,841,469   | 49,382          | 35,729     | 0         | 47,637     |  |
| 2008          | 63,596                          | 210,197     | 640,715            | 7,591      | 648,306     | 20,474          | 19,644     | 0         | 28,901     |  |
| 2009          | 67,633                          | 222,291     | 9,987,899          | 10,348     | 9,998,247   | 23,685          | 25,891     | 0         | 33,870     |  |
| 2010          | 6,865                           | 22,435      | 11,126,864         | 940        | 11,127,803  | 25,049          | 2,960      | 0         | 3,965      |  |
| 2011          | 7,068                           | 23,340      | 4,979,760          | 1,192      | 4,980,952   | 2,657           | 3,077      | 0         | 4,040      |  |
| 2012          | 212,213                         | 686,542     | 870,739            | 28,394     | 899,133     | 81,257          | 81,320     | 0         | 108,407    |  |
| 2013          | 510,460                         | 1,873,406   | 647,145            | 69,244     | 716,389     | 184,141         | 196,506    | 0         | 261,990    |  |
| 2014          | 1,319,909                       | 4,073,564   | 922,367            | 76,354     | 998,721     | 310,454         | 154,344    | 0         | 205,796    |  |
| 2015          | 499,616                         | 1,453,641   | 38,459             | 28,432     | 66,891      | 475,182         | 85,298     | 0         | 113,733    |  |
| 2016          | 142,617                         | 466,478     | 326,113            | 20,192     | 346,305     | 54,529          | 60,578     | 0         | 80,773     |  |
| 2017          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2018          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2019          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2020          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2021          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2022          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2023          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2024          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2025          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2026          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2027          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2028          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2029          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2030          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2031          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2032          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2033          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2034          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| 2035          | 0                               | 0           | 0                  | 0          | 0           | 0               | 0          | 0         | 0          |  |
| TOTAL         | 78,563,551                      | 298,340,237 | 290,950,957        | 54,867,211 | 345,818,168 | 52,092,582      | 24,321,988 | 759,941   | 19,227,931 |  |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 6 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |             |            |             |            |            |             | SANTA ANA DIVISION |             |
|---------------|---------------------------------|-------------|------------|-------------|------------|------------|-------------|--------------------|-------------|
|               | MOJAVE DIVISION (continued)     |             |            |             |            |            | Reach 25    |                    | Reach 26A   |
|               | Reach 20B                       | Reach 21    | Reach 22A  | Reach 22B   | Reach 23   | Reach 24   | Subtotal    | [54]               | [55]        |
|               | [47]                            | [48]        | [49]       | [50]        | [51]       | [52]       | [53]        |                    |             |
| 1952          | 892                             | 5,788       | 35         | 2,013       | 2,074      | 2,413      | 21,386      | 3,334              | 5,599       |
| 1953          | 3,402                           | 17,846      | 71         | 5,752       | 6,886      | 7,438      | 65,936      | 10,275             | 17,264      |
| 1954          | 4,548                           | 23,558      | 369        | 8,560       | 7,849      | 9,820      | 87,036      | 13,566             | 22,790      |
| 1955          | 2,213                           | 7,947       | 178        | 2,754       | 2,725      | 3,313      | 29,357      | 4,575              | 7,687       |
| 1956          | 2,655                           | 8,542       | 216        | 2,905       | 2,961      | 3,561      | 31,562      | 4,917              | 8,264       |
| 1957          | 9,826                           | 31,616      | 800        | 10,757      | 10,962     | 13,177     | 116,825     | 18,205             | 30,586      |
| 1958          | 16,752                          | 53,569      | 1,397      | 18,717      | 18,578     | 22,627     | 199,237     | 31,001             | 52,019      |
| 1959          | 18,604                          | 56,724      | 1,844      | 25,421      | 20,372     | 45,646     | 255,388     | 39,325             | 58,137      |
| 1960          | 37,179                          | 43,893      | 11,029     | 136,751     | 17,152     | 109,816    | 449,110     | 65,655             | 93,700      |
| 1961          | 37,102                          | 21,532      | 14,517     | 215,859     | 9,546      | 373,473    | 777,154     | 26,979             | 56,734      |
| 1962          | 10,730                          | 8,197       | 4,186      | 164,168     | 4,336      | 279,421    | 817,994     | 9,964              | 36,235      |
| 1963          | 40,865                          | 26,670      | 17,081     | 237,695     | 7,228      | 358,503    | 1,205,145   | 31,013             | 112,271     |
| 1964          | 71,116                          | 33,912      | 22,793     | 262,996     | 6,863      | 244,003    | 1,495,651   | 69,669             | 202,642     |
| 1965          | 343,506                         | 91,095      | 65,689     | 827,655     | 11,836     | 621,566    | 2,916,174   | 279,237            | 206,356     |
| 1966          | 1,311,628                       | 160,388     | 178,538    | 1,746,245   | 31,078     | 1,018,628  | 6,629,975   | 415,066            | 364,004     |
| 1967          | 1,718,942                       | 498,257     | 367,961    | 3,146,128   | 62,135     | 2,331,106  | 11,009,612  | 3,184,296          | 638,539     |
| 1968          | 2,291,691                       | 1,141,929   | 1,145,768  | 4,588,850   | 102,207    | 2,600,293  | 21,078,184  | 8,264,126          | 1,268,194   |
| 1969          | 5,626,284                       | 2,358,737   | 1,515,147  | 7,750,478   | 260,659    | 11,131,406 | 37,268,731  | 6,807,783          | 1,768,456   |
| 1970          | 5,304,372                       | 3,232,911   | 2,081,810  | 23,451,612  | 1,240,798  | 16,885,193 | 59,277,133  | 2,169,051          | 7,229,429   |
| 1971          | 1,091,123                       | 825,070     | 432,464    | 16,772,680  | 1,922,115  | 5,385,721  | 29,292,507  | 1,135,248          | 9,811,736   |
| 1972          | 635,507                         | 484,772     | 324,865    | 3,788,894   | 48,049     | 788,479    | 7,085,469   | 1,095,740          | 5,528,987   |
| 1973          | 83,840                          | 63,774      | 36,179     | 1,623,274   | 24,333     | 4,225,877  | 6,247,801   | 136,994            | 1,810,729   |
| 1974          | 118,639                         | 103,545     | 54,198     | 5,699,605   | 130,567    | 766,562    | 7,248,472   | 68,180             | 1,922,999   |
| 1975          | 169,294                         | 167,240     | 19,453     | 4,793,580   | 19,467     | 373,783    | 5,731,466   | 166,653            | 3,787,797   |
| 1976          | 102,909                         | 44,896      | 24,732     | 3,103,916   | 84,188     | 204,705    | 3,837,735   | 475,176            | 1,494,750   |
| 1977          | 120,160                         | 71,389      | 49,445     | 1,654,122   | 60,112     | 232,230    | 2,708,024   | 76,255             | 776,085     |
| 1978          | 68,838                          | 32,855      | 18,183     | 677,448     | 36,484     | 210,198    | 1,711,657   | 57,463             | 131,076     |
| 1979          | 36,225                          | 18,948      | 10,675     | 560,506     | 10,634     | 103,615    | 1,754,670   | 29,960             | 80,482      |
| 1980          | 284,545                         | 133,526     | 121,171    | 2,239,224   | 60,229     | 559,963    | 5,914,309   | 31,462             | 181,638     |
| 1981          | 32,214                          | 13,223      | 6,466      | (774,614)   | 138,917    | 203,941    | 1,737,796   | 5,864              | 69,031      |
| 1982          | 77,988                          | 13,158      | 14,459     | 432,274     | 346,905    | 79,819     | 8,717,975   | 9,224              | 159,280     |
| 1983          | 58,714                          | 25,900      | 10,363     | 451,428     | 2,029,405  | 58,989     | 13,652,234  | 4,304              | 528,764     |
| 1984          | 35,378                          | 845,423     | 6,052      | (83,811)    | 1,290,740  | 34,764     | 10,799,037  | 3,850              | 270,455     |
| 1985          | (232,549)                       | (481,017)   | 1,945,477  | 608,583     | 966,160    | 51,634     | 8,422,737   | 5,555              | 62,571      |
| 1986          | (2,046,222)                     | (1,334,975) | 3,260,280  | 1,097,122   | 230,510    | 51,994     | 7,713,451   | 9,927              | 114,561     |
| 1987          | (344,829)                       | 55,519      | 64,264     | 3,631,282   | 146,850    | 91,223     | 5,552,802   | 4,908              | 27,208      |
| 1988          | (147,290)                       | (70,564)    | 351,489    | 552,546     | 558,557    | 197,761    | 2,039,009   | 7,358              | 161,957     |
| 1989          | 60,657                          | 30,217      | 534,658    | 4,161,037   | 1,496,776  | 433,072    | 7,382,673   | 8,092              | (2,297,399) |
| 1990          | (403,413)                       | (635,623)   | (97,841)   | 8,794,258   | 1,394,698  | 344,367    | 8,620,068   | 176,854            | (1,657,576) |
| 1991          | (18,809)                        | (147,369)   | (17,234)   | 7,985,326   | 3,624,824  | 139,105    | 11,753,895  | 202,286            | (1,316,160) |
| 1992          | 338,098                         | (263,897)   | 75,210     | 4,849,560   | 8,364,426  | 127,829    | 14,808,798  | 333,934            | (1,878,502) |
| 1993          | 180,598                         | 133,941     | 49,144     | 2,094,764   | 15,390,366 | 159,211    | 19,571,092  | 1,506,787          | 3,979,221   |
| 1994          | 114,273                         | 65,260      | 26,546     | 933,021     | 8,082,401  | 81,869     | 10,577,079  | 2,104,588          | 2,493,097   |
| 1995          | 121,499                         | 66,503      | 30,918     | 1,096,953   | 5,924,175  | 123,653    | 8,050,530   | 3,310,564          | 500,791     |
| 1996          | 48,699                          | 44,953      | 17,787     | 1,736,686   | 2,181,669  | 96,339     | 4,344,851   | 19,019,751         | (100,474)   |
| 1997          | 39,973                          | 55,881      | 27,865     | 809,666     | (342,563)  | 102,390    | 1,000,244   | 7,645,602          | (662,524)   |
| 1998          | 27,626                          | 20,285      | 12,816     | 273,139     | 3,392,776  | 36,135     | 3,880,497   | 993,619            | 1,613,505   |
| 1999          | 58,392                          | 37,660      | 17,874     | 1,006,721   | 2,208,657  | 123,472    | 3,792,421   | 224,119            | 843,638     |
| 2000          | 75,230                          | 44,857      | 20,181     | 724,837     | 1,251,684  | 83,871     | 2,495,486   | 129,156            | 1,285,637   |
| 2001          | 121,907                         | 77,799      | 54,526     | 550,843     | 342,964    | 26,780     | 1,773,369   | 73,031             | 447,282     |
| 2002          | (82,663)                        | (7,369)     | (43,431)   | 270,386     | 269,139    | 71,793     | 264,008     | 54,815             | 1,753,554   |
| 2003          | (7,564)                         | (3,238)     | (3,009)    | 382,025     | 146,659    | 30,255     | 599,147     | 86,731             | 350,997     |
| 2004          | 12,619                          | 13,744      | 5,414      | 262,810     | 48,570     | 12,285     | 411,358     | 13,577             | 275,709     |
| 2005          | 18,874                          | 25,074      | 6,335      | 62,967      | 104,838    | 144,149    | 433,303     | 16,962             | 120,279     |
| 2006          | 4,511                           | 5,983       | 1,500      | 15,163      | 294,318    | 577,859    | 917,747     | 21,932             | 16,665      |
| 2007          | 35,725                          | 47,634      | 11,908     | 151,063     | 919,040    | 69,935     | 1,368,052   | 12,905             | 55,918      |
| 2008          | 19,526                          | 25,456      | 6,313      | 346,638     | 3,113,899  | 2,019,852  | 5,600,705   | 2,481              | 82,555      |
| 2009          | 24,745                          | 32,909      | 8,241      | 940,452     | 448,164    | 1,834,401  | 3,372,357   | 2,972              | 260,999     |
| 2010          | 2,992                           | 3,992       | 997        | 2,207,142   | 26,737     | 1,373,264  | 3,647,098   | (3)                | 119,968     |
| 2011          | 2,966                           | 3,947       | 988        | 5,917,166   | 4,612      | 99,900     | 6,039,352   | 11                 | 31,884      |
| 2012          | 81,282                          | 108,375     | 27,093     | 10,065,497  | 81,296     | 20,072     | 10,654,598  | 4                  | 405,081     |
| 2013          | 196,465                         | 261,955     | 65,486     | 5,993,949   | 284,922    | 40,195     | 7,485,608   | 4                  | 836,549     |
| 2014          | 154,344                         | 205,796     | 51,446     | 2,991,990   | 1,014,662  | 0          | 5,088,832   | 0                  | 1,589,619   |
| 2015          | 85,298                          | 113,733     | 28,432     | 286,117     | 246,174    | 0          | 1,433,967   | 0                  | 3,187,695   |
| 2016          | 60,578                          | 80,773      | 20,192     | 203,198     | 645,107    | 0          | 1,205,728   | 0                  | 336,298     |
| 2017          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2018          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2019          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2020          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2021          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2022          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2023          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2024          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2025          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2026          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2027          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2028          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2029          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2030          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2031          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2032          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2033          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2034          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| 2035          | 0                               | 0           | 0          | 0           | 0          | 0          | 0           | 0                  | 0           |
| TOTAL         | 18,371,219                      | 9,285,021   | 13,119,999 | 154,546,751 | 70,891,457 | 57,854,715 | 420,471,604 | 60,712,933         | 51,773,319  |

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 7 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                   |                    |                    |                   |                   |                    |                   |                   |      |
|---------------|---------------------------------|-------------------|--------------------|--------------------|-------------------|-------------------|--------------------|-------------------|-------------------|------|
|               | SANTA ANA DIVISION (continued)  |                   |                    |                    | WEST BRANCH       |                   |                    |                   |                   |      |
|               | Reach 28G (a)                   | Reach 28H         | Reach 28J          | Subtotal           | Reach 29A         | Reach 29F         | Reach 29G          | Reach 29H         | Reach 29J         | [64] |
|               | [56]                            | [57]              | [58]               | [59]               | [60]              | [61]              | [62]               | [63]              | [64]              |      |
| 1952          | 4,785                           | 4,055             | 3,020              | 20,793             | 2,924             | 136               | 175                | 459               | 553               |      |
| 1953          | 15,580                          | 11,511            | 9,476              | 64,106             | 9,093             | 344               | 237                | 1,754             | 1,683             |      |
| 1954          | 18,015                          | 18,100            | 12,160             | 84,631             | 7,389             | 1,201             | 2,229              | 2,350             | 4,162             |      |
| 1955          | 6,052                           | 6,081             | 4,151              | 28,546             | 1,019             | 585               | 1,086              | 1,147             | 2,029             |      |
| 1956          | 6,496                           | 6,525             | 4,480              | 30,682             | 490               | 698               | 1,297              | 1,366             | 2,420             |      |
| 1957          | 24,044                          | 24,156            | 16,585             | 113,576            | 1,809             | 2,583             | 4,792              | 5,057             | 8,952             |      |
| 1958          | 40,844                          | 41,033            | 28,470             | 193,367            | 3,256             | 4,516             | 8,714              | 8,878             | 15,847            |      |
| 1959          | 45,746                          | 45,946            | 44,331             | 233,485            | 7,953             | 9,150             | 19,414             | 18,243            | 35,583            |      |
| 1960          | 59,102                          | 58,548            | 118,969            | 395,974            | 21,753            | 14,990            | 34,447             | 29,764            | 69,752            |      |
| 1961          | 32,226                          | 34,382            | 674,787            | 825,108            | 22,442            | 12,775            | 21,559             | 20,086            | 39,761            |      |
| 1962          | 21,383                          | 20,530            | 47,484             | 135,596            | 40,237            | 28,729            | 86,938             | 58,215            | 108,962           |      |
| 1963          | 43,884                          | 41,698            | 1,506,440          | 1,735,306          | 91,959            | 69,162            | 163,347            | 110,015           | 211,592           |      |
| 1964          | 89,710                          | 45,762            | 98,569             | 506,352            | 150,670           | 66,420            | 207,977            | 143,340           | 291,404           |      |
| 1965          | 96,956                          | 76,899            | 146,095            | 805,543            | 361,811           | 77,914            | 403,115            | 127,430           | 589,638           |      |
| 1966          | 170,878                         | 308,756           | 589,107            | 1,847,811          | 489,512           | 203,497           | 1,233,640          | 348,918           | 3,231,797         |      |
| 1967          | 233,968                         | 283,126           | 987,832            | 5,327,761          | 1,589,715         | 882,096           | 1,117,243          | 891,607           | 31,088,491        |      |
| 1968          | 871,337                         | 266,295           | 780,587            | 11,450,539         | 3,899,363         | 300,921           | 396,190            | 1,104,832         | 36,157,768        |      |
| 1969          | 1,117,873                       | 1,444,654         | 756,442            | 11,895,208         | 6,592,580         | 336,480           | 693,348            | 1,184,454         | 9,655,871         |      |
| 1970          | 1,843,621                       | 1,013,468         | 2,829,523          | 15,085,092         | 7,966,733         | 6,089,401         | 2,624,747          | 3,002,968         | 8,463,475         |      |
| 1971          | 16,095,702                      | 6,401,303         | 12,111,623         | 45,555,612         | 4,247,037         | 3,768,699         | 1,120,231          | 8,244,651         | 5,844,024         |      |
| 1972          | 1,537,880                       | 11,960,791        | 21,542,747         | 41,666,145         | 1,871,831         | 426,932           | 985,512            | 18,787,722        | (23,015,734)      |      |
| 1973          | 209,664                         | 247,769           | 3,673,344          | 6,078,500          | 775,824           | 168,064           | 399,856            | 9,408,706         | 1,821,206         |      |
| 1974          | 162,178                         | 101,638           | 1,980,991          | 4,235,986          | 560,657           | 168,878           | 169,717            | 3,901,261         | (3,454,239)       |      |
| 1975          | 157,365                         | 124,399           | 1,626,274          | 5,862,488          | 353,670           | 421,176           | 925,693            | 664,113           | 609,891           |      |
| 1976          | 178,287                         | 118,748           | 1,497,465          | 3,764,426          | 396,809           | 650,417           | 1,274,484          | 706,244           | 650,209           |      |
| 1977          | 127,106                         | 89,036            | 323,091            | 1,391,573          | 390,637           | 3,018,637         | 2,152,961          | 196,012           | 1,135,148         |      |
| 1978          | 147,112                         | 153,867           | 347,482            | 837,000            | 1,427,190         | 2,219,135         | 6,694,615          | 57,817            | 149,932           |      |
| 1979          | 29,723                          | 19,225            | 225,947            | 385,337            | 940,013           | 2,168,382         | 19,813,742         | 597,858           | 331,313           |      |
| 1980          | 137,833                         | 154,821           | 1,077,900          | 1,583,654          | 1,276,793         | 4,108,143         | 24,537,814         | 550,337           | 204,751           |      |
| 1981          | 28,815                          | 22,654            | 61,349             | 187,713            | (711,751)         | 2,699,873         | 19,806,531         | 94,944            | 28,852            |      |
| 1982          | 16,069                          | 58,900            | 55,841             | 299,314            | (465,217)         | 351,251           | 17,964,617         | 215,678           | 42,587            |      |
| 1983          | 18,213                          | 89,581            | (264,804)          | 376,058            | 100,394           | 180,971           | 6,751,649          | 220,029           | 24,295            |      |
| 1984          | 14,462                          | 12,259            | 49,547             | 350,573            | 71,759            | 68,930            | 2,870,259          | 335,942           | 17,285            |      |
| 1985          | 17,816                          | 11,481            | 54,070             | 151,493            | 142,244           | 25,386            | 2,126,670          | 102,366           | 21,971            |      |
| 1986          | 31,564                          | 25,037            | 86,794             | 267,883            | 133,914           | 62,294            | 274,660            | 141,894           | 36,149            |      |
| 1987          | 17,141                          | 8,005             | 45,528             | 102,790            | 13,936            | 453,949           | 711,773            | 192,511           | 27,931            |      |
| 1988          | 41,892                          | 21,113            | 90,784             | 323,104            | 427,544           | 118,010           | 1,660,959          | 203,130           | 95,930            |      |
| 1989          | 28,708                          | 12,619            | 51,556             | (2,196,424)        | 207,067           | 430,662           | 584,186            | 241,811           | 97,472            |      |
| 1990          | 27,478                          | 12,817            | 55,408             | (1,385,019)        | 197,428           | 355,480           | 386,882            | 813,211           | 54,269            |      |
| 1991          | 142,139                         | 15,524            | 62,794             | (893,417)          | 219,321           | 344,386           | 453,336            | 1,132,520         | 55,176            |      |
| 1992          | 34,185                          | 13,422            | 69,479             | (1,427,482)        | 541,026           | 295,312           | 464,421            | 4,402,524         | 47,182            |      |
| 1993          | 44,300                          | 27,047            | 162,854            | 5,720,209          | 464,987           | 320,182           | 643,189            | 3,361,457         | 74,198            |      |
| 1994          | 16,351                          | 11,673            | 54,581             | 4,680,290          | 203,686           | 231,527           | 362,717            | 306,148           | 33,758            |      |
| 1995          | 35,402                          | 28,202            | 164,254            | 4,039,213          | 344,358           | 392,647           | 536,253            | 468,656           | 34,007            |      |
| 1996          | 76,723                          | 73,629            | 344,747            | 19,414,376         | 150,901           | 161,394           | 427,223            | 203,201           | 15,357            |      |
| 1997          | 50,662                          | 20,720            | 268,293            | 7,322,753          | 298,002           | 71,310            | 432,940            | 276,180           | 50,095            |      |
| 1998          | 10,268                          | 8,970             | 479,138            | 3,105,500          | 346,973           | 21,003            | 2,028,979          | 181,951           | 49,377            |      |
| 1999          | 84,683                          | 45,293            | 324,223            | 1,521,955          | 296,520           | 37,641            | 1,080,682          | 125,373           | 51,213            |      |
| 2000          | 64,095                          | 41,331            | 114,224            | 1,634,443          | 212,174           | 33,747            | 238,676            | 116,588           | 13,241            |      |
| 2001          | 20,193                          | 13,635            | 88,656             | 642,797            | 43,281            | 6,448             | 104,127            | 110,850           | 10,737            |      |
| 2002          | 53,787                          | 12,619            | 196,949            | 2,071,724          | 171,190           | 30,767            | 252,912            | 60,146            | 7,881             |      |
| 2003          | 1,096,665                       | 2,482,179         | 179,466            | 4,196,038          | 50,519            | 9,141             | 103,160            | 57,712            | 51,000            |      |
| 2004          | 1,736,308                       | 856,587           | 24,559             | 2,906,739          | 47,768            | 6,780             | 27,718             | 107,695           | 215,925           |      |
| 2005          | 2,049,655                       | 410,021           | 270,894            | 2,867,810          | 273,482           | 12,718            | 54,409             | 6,642             | 52,413            |      |
| 2006          | 2,302,259                       | 406,071           | 2,571,775          | 5,318,702          | 660,664           | 3,079             | 115,825            | 1,557             | 2,299,565         |      |
| 2007          | (246)                           | 1,099,958         | 3,664,358          | 4,832,893          | 107,460           | 25,257            | 1,958,512          | 269,569           | 347               |      |
| 2008          | 835,530                         | 899,508           | 682,829            | 2,502,902          | 2,090,139         | 14,503            | 103,704            | 1,001,788         | 2,089             |      |
| 2009          | 4,202,648                       | 976,867           | 2,819,145          | 8,262,631          | 1,931,429         | 17,722            | 22,988             | 1,463,563         | 631               |      |
| 2010          | 43,408                          | 930,165           | 3,865,738          | 4,959,276          | 864,340           | 2,114             | 24,691             | 231,970           | (12)              |      |
| 2011          | 1,173,995                       | 577               | 1,955,691          | 3,162,158          | 425,260           | 2,100             | 2,215              | 39,980            | 41                |      |
| 2012          | 2,742,045                       | 197,276           | 2,742,639          | 6,087,046          | 612,609           | 57,465            | 77,631             | 26,933            | 10,200            |      |
| 2013          | 3,276,049                       | 1,266,108         | 7,087,461          | 12,466,170         | 166,890           | 153,136           | 181,200            | 63,228            | 15,170            |      |
| 2014          | 0                               | 0                 | 16,894,535         | 18,484,154         | 266,016           | 352,894           | 662,078            | 49,638            | 3,434             |      |
| 2015          | 0                               | 0                 | 37,703,484         | 40,891,179         | 38,462            | 1,580,747         | 586,806            | 27,433            | 3,434             |      |
| 2016          | 0                               | 0                 | 23,510,179         | 23,846,477         | 27,315            | 813,282           | 423,995            | 19,483            | 2,438             |      |
| 2017          | 0                               | 0                 | 16,315,023         | 16,315,023         | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2018          | 0                               | 0                 | 31,927,997         | 31,927,997         | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2019          | 0                               | 0                 | 15,410,551         | 15,410,551         | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2020          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2021          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2022          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2023          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2024          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2025          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2026          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2027          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2028          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2029          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2030          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2031          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2032          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2033          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2034          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| 2035          | 0                               | 0                 | 0                  | 0                  | 0                 | 0                 | 0                  | 0                 | 0                 |      |
| <b>TOTAL</b>  | <b>43,858,611</b>               | <b>33,234,967</b> | <b>223,307,958</b> | <b>412,887,789</b> | <b>44,493,239</b> | <b>34,964,169</b> | <b>129,603,691</b> | <b>66,849,907</b> | <b>77,801,880</b> |      |

(a) Includes excess capacity costs (not shown in Table B-9) allocated to MWDSC in the following years and repaid under Article 24(c) of its contract: 1970 - \$362,000; 1971 - \$6,198,000; 1972 - \$139,000.

**TABLE B-10 Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge**

(in dollars)

Sheet 8 of 8

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                    |                   |                    |                    |                   |                   |                   |                   |                    |                      | Grand Total          |  |
|---------------|---------------------------------|--------------------|-------------------|--------------------|--------------------|-------------------|-------------------|-------------------|-------------------|--------------------|----------------------|----------------------|--|
|               | West Branch (cont.)             |                    | Coastal Branch    |                    |                    |                   |                   |                   |                   |                    |                      |                      |  |
|               | Reach 30                        | Subtotal           | Reach 31A         | Reach 33A          | Reach 33B          | Reach 34          | Reach 35          | Reach 37          | Reach 38          | Subtotal           | Total                |                      |  |
|               | [65]                            | [66]               | [67]              | [68]               | [69]               | [70]              | [71]              | [72]              | [73]              | [74]               | [75]                 | [76]                 |  |
| 1952          | 1,408                           | 5,655              | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 98,857               | 99,353               |  |
| 1953          | 4,346                           | 17,457             | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 309,387              | 311,812              |  |
| 1954          | 5,743                           | 23,074             | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 394,688              | 402,143              |  |
| 1955          | 1,943                           | 7,809              | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 159,842              | 169,342              |  |
| 1956          | 2,077                           | 8,348              | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 255,679              | 351,551              |  |
| 1957          | 7,684                           | 30,877             | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 708,753              | 1,464,452            |  |
| 1958          | 13,931                          | 55,142             | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 1,331,616            | 2,286,623            |  |
| 1959          | 44,384                          | 134,727            | 28,046            | 49,114             | 0                  | 7,441             | 8,236             | 0                 | 0                 | 92,837             | 2,096,392            | 2,967,412            |  |
| 1960          | 84,703                          | 255,409            | 34,404            | 70,450             | 0                  | 8,507             | 14,265            | 0                 | 0                 | 127,626            | 2,937,049            | 4,660,833            |  |
| 1961          | 123,330                         | 239,953            | 13,801            | 17,868             | 0                  | 1,501             | 3,931             | 0                 | 0                 | 37,101             | 4,650,264            | 8,545,244            |  |
| 1962          | 348,366                         | 671,447            | 10,121            | 7,798              | 0                  | 524               | 1,689             | 0                 | 0                 | 20,132             | 5,827,774            | 8,875,171            |  |
| 1963          | 521,491                         | 1,167,566          | 20,470            | 14,299             | 0                  | 880               | 2,943             | 0                 | 0                 | 38,592             | 18,981,487           | 24,610,278           |  |
| 1964          | 1,372,464                       | 2,232,275          | 315,418           | 26,963             | 0                  | 1,687             | 5,639             | 0                 | 0                 | 349,707            | 31,550,813           | 41,736,060           |  |
| 1965          | 3,383,950                       | 4,943,858          | 747,023           | 36,178             | 0                  | 2,118             | 7,060             | 0                 | 0                 | 792,379            | 57,936,405           | 62,664,743           |  |
| 1966          | 9,364,753                       | 14,872,117         | 2,258,15          | 35,864             | 0                  | 1,736             | 5,764             | 0                 | 0                 | 2,302,279          | 124,748,128          | 129,110,330          |  |
| 1967          | 17,618,827                      | 53,187,979         | 6,310,419         | 38,331             | 0                  | 1,891             | 6,213             | 0                 | 0                 | 6,356,854          | 187,465,580          | 194,146,365          |  |
| 1968          | 15,736,691                      | 57,595,765         | 2,707,580         | 30,784             | 0                  | 1,324             | 4,369             | 0                 | 0                 | 2,744,057          | 192,593,079          | 197,978,911          |  |
| 1969          | 16,228,175                      | 34,690,908         | 423,797           | 26,549             | 0                  | 907               | 2,905             | 0                 | 0                 | 454,158            | 182,530,023          | 184,473,490          |  |
| 1970          | 22,330,328                      | 50,497,652         | 269,194           | 24,368             | 0                  | 851               | 2,787             | 0                 | 0                 | 297,200            | 206,720,774          | 207,082,650          |  |
| 1971          | 16,890,503                      | 40,115,145         | 164,446           | 32,230             | 0                  | 1,315             | 3,804             | 0                 | 0                 | 201,795            | 158,414,033          | 158,624,739          |  |
| 1972          | 3,818,001                       | 2,874,264          | 131,332           | 17,601             | 0                  | 522               | 1,660             | 0                 | 0                 | 151,115            | 68,228,670           | 68,362,291           |  |
| 1973          | 13,426,222                      | 25,999,878         | 182,493           | 16,154             | 0                  | 542               | 1,758             | 0                 | 0                 | 200,947            | 45,110,823           | 45,263,853           |  |
| 1974          | 2,988,318                       | 4,334,592          | 190,866           | 18,799             | 0                  | 463               | 1,405             | 0                 | 0                 | 211,533            | 24,036,199           | 24,402,166           |  |
| 1975          | 1,808,235                       | 4,782,778          | 64,582            | 36,012             | 0                  | 2,255             | 6,656             | 0                 | 0                 | 109,505            | 21,065,768           | 21,318,838           |  |
| 1976          | 1,253,067                       | 4,931,230          | 198,266           | 68,898             | 0                  | 5,088             | 14,988            | 0                 | 0                 | 287,240            | 17,183,961           | 17,492,910           |  |
| 1977          | 345,023                         | 7,238,418          | 918,473           | 81,305             | 0                  | 1,834             | 5,387             | 0                 | 0                 | 1,006,999          | 15,165,801           | 15,544,382           |  |
| 1978          | 763,445                         | 11,312,134         | 52,994            | 83,300             | 0                  | 1,302             | 3,852             | 0                 | 0                 | 141,448            | 18,661,117           | 19,119,151           |  |
| 1979          | 282,145                         | 24,133,453         | 38,182            | 108,951            | 0                  | 1,505             | 4,433             | 0                 | 0                 | 153,071            | 31,202,118           | 31,857,362           |  |
| 1980          | 2,055,206                       | 32,733,044         | 189,070           | 376,036            | 0                  | 1,152             | 3,449             | 0                 | 0                 | 569,707            | 73,891,101           | 74,986,833           |  |
| 1981          | 275,460                         | 22,193,909         | 19,897            | (157,537)          | 0                  | 1,427             | 4,261             | 0                 | 0                 | (131,952)          | 15,246,649           | 15,742,773           |  |
| 1982          | 351,376                         | 18,460,292         | (16,381)          | (96,449)           | 0                  | 588               | 1,787             | 0                 | 0                 | (110,455)          | 38,256,580           | 39,705,931           |  |
| 1983          | 566,545                         | 7,843,883          | 85,496            | 67,106             | 0                  | 794               | 2,398             | 0                 | 0                 | 155,794            | 34,705,281           | 38,044,649           |  |
| 1984          | 1,118,954                       | 4,483,129          | 28,568            | 54,074             | 0                  | 986               | 2,959             | 0                 | 0                 | 86,587             | 24,454,091           | 30,382,250           |  |
| 1985          | 284,243                         | 2,702,880          | 36,834            | 54,314             | 0                  | 2,111             | 6,263             | 0                 | 0                 | 99,522             | 14,914,930           | 28,537,556           |  |
| 1986          | 213,353                         | 862,264            | 82,358            | 223,134            | 0                  | 17,458            | 51,279            | 0                 | 0                 | 374,229            | 13,435,351           | 43,155,828           |  |
| 1987          | 158,313                         | 1,558,413          | 53,817            | 10,611,939         | 0                  | 92,506            | 272,968           | 0                 | 0                 | 1,481,230          | 11,711,428           | 34,331,982           |  |
| 1988          | 222,068                         | 2,727,641          | 183,853           | 11,141,272         | 0                  | 99,456            | 293,612           | 0                 | 0                 | 1,718,193          | 11,026,370           | 18,123,243           |  |
| 1989          | 148,674                         | 1,709,872          | 84,678            | 893,765            | 0                  | 77,283            | 228,038           | 0                 | 0                 | 1,283,764          | 30,302,112           | 33,130,497           |  |
| 1990          | 119,438                         | 1,926,708          | 133,868           | 1,100,167          | 0                  | 103,785           | 277,889           | 0                 | 0                 | 1,615,709          | 32,589,619           | 34,435,721           |  |
| 1991          | 229,315                         | 2,434,054          | 164,610           | 1,635,283          | 0                  | 123,603           | 363,889           | 0                 | 0                 | 2,287,385          | 38,320,942           | 39,811,664           |  |
| 1992          | 206,495                         | 5,956,960          | 183,240           | 1,220,510          | 1,495,646          | 566,230           | 240,553           | 102,051           | 74,162            | 3,882,392          | 34,311,926           | 35,041,233           |  |
| 1993          | 296,349                         | 5,160,362          | 344,928           | 5,274,657          | 5,052,431          | 1,345,211         | 688,935           | 268,937           | 358,367           | 13,333,466         | 53,122,384           | 53,921,787           |  |
| 1994          | 168,426                         | 1,306,242          | 282,150           | 15,905,886         | 21,341,196         | 8,915,445         | 2,363,238         | 678,753           | 1,315,559         | 50,802,227         | 73,751,564           | 74,225,377           |  |
| 1995          | 304,983                         | 2,080,904          | 1,196,326         | 45,172,271         | 62,947,362         | 23,975,738        | 20,849,939        | 7,029,108         | 7,117,197         | 168,287,941        | 191,033,090          | 191,525,571          |  |
| 1996          | 98,522                          | 1,056,598          | 948,730           | 42,987,442         | 54,300,990         | 26,475,298        | 18,790,572        | 7,213,823         | 6,616,310         | 157,333,165        | 187,776,347          | 188,025,325          |  |
| 1997          | 233,956                         | 1,362,483          | 562,583           | 11,209,633         | 13,893,576         | 10,456,863        | 4,149,105         | 545,378           | 798,606           | 41,615,744         | 62,137,369           | 62,583,537           |  |
| 1998          | 67,874                          | 2,696,157          | 248,671           | 2,355,322          | 4,159,441          | 3,368,320         | 952,615           | 192,567           | 280,779           | 11,557,715         | 27,083,446           | 27,217,157           |  |
| 1999          | 118,013                         | 1,709,442          | 288,236           | 2,906,010          | 4,398,935          | 2,616,574         | 356,318           | 36,680            | 51,648            | 10,654,402         | 24,085,343           | 24,556,053           |  |
| 2000          | 187,926                         | 802,352            | 132,435           | 228,901            | 2,965,936          | 2,746,120         | 17,830            | 0                 | 0                 | 6,091,222          | 13,504,773           | 13,742,557           |  |
| 2001          | 23,847                          | 299,290            | 103,281           | (7,057)            | 568,968            | 3,960             | (1,112)           | 0                 | 0                 | 668,039            | 5,130,617            | 7,470,505            |  |
| 2002          | 62,684                          | 585,581            | 98,021            | 147,827            | 105,972            | 77,266            | 13,119            | 0                 | 0                 | 442,227            | 8,836,704            | 17,138,613           |  |
| 2003          | 34,282                          | 305,814            | 42,075            | 43,753             | 31,706             | 25,734            | 6,272             | 0                 | 0                 | 149,540            | 3,105,115            | 10,869,934           |  |
| 2004          | 16,535                          | 422,421            | 26,667            | 13,644             | 21,479             | 3,142             | 1,942             | 0                 | 0                 | 66,873             | 5,117,635            | 10,222,860           |  |
| 2005          | 594,136                         | 993,800            | 29,337            | (261,476)          | 38,618             | 526               | 327               | 0                 | 0                 | (192,669)          | 8,116,634            | 10,591,742           |  |
| 2006          | 164,739                         | 3,245,429          | 7,046             | 6,303              | 37,583             | 4                 | 18,012            | 0                 | 0                 | 68,949             | 15,720,701           | 19,817,715           |  |
| 2007          | 31,047                          | 2,392,192          | 37,460            | 32,702             | 42,774             | 0                 | 152               | 0                 | 0                 | 113,088            | 13,498,872           | 19,970,334           |  |
| 2008          | 60,186                          | 3,272,409          | 41,227            | 34,997             | 10,865             | 24                | 14,163            | 0                 | 0                 | 101,277            | 14,846,508           | 28,653,622           |  |
| 2009          | 47,211                          | 3,483,543          | 19,458            | 17,409             | 2,357              | 43                | 44,176            | 0                 | 0                 | 83,443             | 26,268,272           | 39,882,227           |  |
| 2010          | 17,025                          | 1,140,128          | 633,621           | 3,158              | 0                  | (1)               | (1,210)           | 0                 | 0                 | 635,568            | 23,048,840           | 45,100,851           |  |
| 2011          | 2,023                           | 471,619            | 848,388           | 611                | 0                  | 4                 | 4,284             | 0                 | 0                 | 853,287            | 17,483,991           | 36,278,779           |  |
| 2012          | 54,204                          | 839,043            | 189,791           | 148,443            | 0                  | 96                | 1,455             | 0                 | 0                 | 339,786            | 21,500,557           | 33,067,928           |  |
| 2013          | 120,003                         | 699,626            | 471,399           | 382,159            | 0                  | 209               | 1,590             | 0                 | 0                 | 855,357            | 33,271,225           | 39,600,176           |  |
| 2014          | 94,117                          | 1,428,177          | 4,769,538         | 1,289,228          | 0                  | 4,475             | 0                 | 0                 | 0                 | 6,063,241          | 46,289,080           | 50,408,239           |  |
| 2015          | 52,014                          | 2,288,896          | 1,292,514         | 238,727            | 0                  | 0                 | 0                 | 0                 | 0                 | 1,531,241          | 56,232,794           | 57,378,708           |  |
| 2016          | 36,940                          | 1,323,453          | 273,018           | 105,223            | 0                  | 0                 | 0                 | 0                 | 0                 | 378,241            | 32,006,207           | 32,391,608           |  |
| 2017          | 0                               | 0                  | 35,000            | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 35,000             | 16,350,023           | 16,350,023           |  |
| 2018          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 31,927,997           | 31,927,997           |  |
| 2019          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 15,410,551           | 15,410,551           |  |
| 2020          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2021          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2022          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2023          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2024          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2025          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2026          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2027          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2028          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2029          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2030          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2031          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2032          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2033          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2034          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| 2035          | 0                               | 0                  | 0                 | 0                  | 0                  | 0                 | 0                 | 0                 | 0                 | 0                  | 0                    | 0                    |  |
| <b>TOTAL</b>  | <b>137,606,034</b>              | <b>491,318,920</b> | <b>29,232,631</b> | <b>136,651,204</b> | <b>171,415,834</b> | <b>81,146,622</b> | <b>50,130,810</b> | <b>16,067,297</b> | <b>16,612,628</b> | <b>501,257,026</b> | <b>2,820,189,168</b> | <b>3,097,682,590</b> |  |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 1 of 9

| Calendar Year | UPPER FEATHER DIVISION | NORTH BAY AQUEDUCT |            |            |            |             | SOUTH BAY AQUEDUCT |            |            |            |
|---------------|------------------------|--------------------|------------|------------|------------|-------------|--------------------|------------|------------|------------|
|               |                        | Reach 1            | Reach 2    | Reach 3A   | Reach 3B   | Total       | Reach 1            | Reach 2    | Reach 4    | Reach 5    |
| [1]           | [2]                    | [3]                | [4]        | [5]        | [6]        | [7]         | [8]                | [9]        | [10]       |            |
| 1961          | 0                      | 0                  | 0          | 0          | 0          | 0           | 0                  | 0          | 0          | 0          |
| 1962          | 0                      | 0                  | 0          | 0          | 0          | 37,396      | 5,522              | 0          | 0          | 0          |
| 1963          | 0                      | 0                  | 0          | 0          | 0          | 147,719     | 20,639             | 0          | 0          | 0          |
| 1964          | 0                      | 0                  | 0          | 0          | 0          | 149,750     | 15,574             | 19,405     | 0          | 0          |
| 1965          | 0                      | 0                  | 0          | 0          | 0          | 259,939     | 45,718             | 46,485     | 0          | 0          |
| 1966          | 0                      | 0                  | 0          | 0          | 0          | 270,890     | 23,799             | 63,921     | 0          | 0          |
| 1967          | 0                      | 0                  | 0          | 0          | 0          | 438,050     | 32,798             | 108,127    | 0          | 0          |
| 1968          | 0                      | 0                  | 0          | 0          | 130        | 130         | 410,919            | 44,277     | 66,973     | 706        |
| 1969          | 0                      | 0                  | 0          | 0          | 80,875     | 80,875      | 487,377            | 48,339     | 75,644     | 706        |
| 1970          | 0                      | 0                  | 0          | 0          | 94,872     | 94,872      | 381,734            | 44,852     | 64,833     | 71,376     |
| 1971          | 54                     | 0                  | 0          | 0          | 45,579     | 45,579      | 357,850            | 25,666     | 50,344     | 38,735     |
| 1972          | 40                     | 0                  | 0          | 0          | 37,895     | 37,895      | 347,941            | 30,606     | 56,800     | 100,106    |
| 1973          | 1                      | 0                  | 0          | 0          | 32,993     | 32,993      | 386,897            | 36,172     | 58,288     | 28,810     |
| 1974          | 143                    | 0                  | 0          | 0          | 46,498     | 46,498      | 456,381            | 57,081     | 83,120     | 61,623     |
| 1975          | 1,069                  | 0                  | 0          | 0          | 37,707     | 37,707      | 624,989            | 46,111     | 81,361     | 36,682     |
| 1976          | 139                    | 0                  | 0          | 0          | 60,786     | 60,786      | 614,362            | 47,862     | 123,838    | 91,096     |
| 1977          | 892                    | 0                  | 0          | 0          | 78,400     | 78,400      | 511,065            | 48,926     | 104,280    | 102,083    |
| 1978          | 39                     | 0                  | 0          | 0          | 56,318     | 56,318      | 671,195            | 125,224    | 176,855    | 50,289     |
| 1979          | 3,235                  | 0                  | 0          | 0          | 73,852     | 73,852      | 650,826            | 76,849     | 212,826    | 91,380     |
| 1980          | 416                    | 0                  | 0          | 0          | 81,769     | 81,769      | 1,128,840          | 212,974    | 242,118    | 110,786    |
| 1981          | 3,847                  | 0                  | 0          | 0          | 101,340    | 101,340     | 884,763            | 130,126    | 167,118    | 204,772    |
| 1982          | 11,075                 | 0                  | 0          | 0          | 191,987    | 191,987     | 1,156,605          | 141,718    | 249,447    | 96,020     |
| 1983          | 1,928                  | 0                  | 0          | 0          | 80,215     | 80,215      | 1,258,144          | 84,360     | 373,875    | 152,255    |
| 1984          | 3,765                  | 0                  | 0          | 0          | 139,121    | 139,121     | 1,998,984          | 113,797    | 340,344    | 34,461     |
| 1985          | 2,888                  | 0                  | 0          | 0          | 259,515    | 259,515     | 2,044,121          | 207,478    | 427,930    | 247,308    |
| 1986          | 2,787                  | 0                  | 0          | 0          | 229,508    | 229,508     | 1,834,838          | 285,908    | 305,149    | 159,054    |
| 1987          | 2,388                  | 0                  | 0          | 0          | 310,683    | 310,683     | 2,118,974          | 163,714    | 400,547    | 283,067    |
| 1988          | 545                    | 0                  | (94)       | 0          | 330,156    | 330,062     | 2,068,655          | 186,275    | 299,934    | 370,212    |
| 1989          | 1,800                  | 473,408            | 178,069    | 237,480    | 373,427    | 1,262,384   | 2,164,688          | 163,481    | 320,734    | 497,038    |
| 1990          | 788                    | 556,610            | 244,897    | 123,144    | 427,257    | 1,351,908   | 2,233,036          | 251,434    | 355,022    | 571,415    |
| 1991          | 3,654                  | 651,307            | 302,327    | 205,516    | 428,470    | 1,587,620   | 1,806,699          | 152,509    | 95,745     | 93,986     |
| 1992          | 647                    | 443,912            | 189,330    | 265,462    | 280,505    | 1,179,209   | 2,064,907          | 405,932    | 409,435    | 363,964    |
| 1993          | 3,630                  | 435,240            | 294,416    | 213,267    | 289,206    | 1,232,129   | 3,925,050          | 621,712    | 480,832    | 399,558    |
| 1994          | 2,279                  | 430,112            | 198,322    | 206,594    | 365,646    | 1,200,674   | 4,673,275          | 302,115    | 404,709    | 408,066    |
| 1995          | 2,906                  | 428,313            | 282,898    | 151,703    | 295,326    | 1,158,240   | 3,849,620          | 316,905    | 566,447    | 330,706    |
| 1996          | 8,007                  | 796,526            | 272,743    | 240,106    | 260,001    | 1,569,376   | 3,526,989          | 254,075    | 664,485    | 493,300    |
| 1997          | 7,449                  | 504,476            | 210,763    | 213,211    | 315,374    | 1,243,824   | 3,010,809          | 189,269    | 591,540    | 230,371    |
| 1998          | 798                    | 404,834            | 227,562    | 204,821    | 251,154    | 1,088,371   | 2,965,219          | 426,872    | 532,042    | 303,263    |
| 1999          | 416                    | 678,159            | 332,340    | 298,066    | 289,895    | 1,598,459   | 3,748,823          | 478,982    | 437,660    | 463,868    |
| 2000          | 505                    | 919,679            | 254,626    | 657,967    | 414,264    | 2,246,536   | 3,810,111          | 541,675    | 440,808    | 550,541    |
| 2001          | 314                    | 1,072,590          | 232,733    | 455,788    | 181,399    | 1,942,510   | 2,907,982          | 272,736    | 289,992    | 391,005    |
| 2002          | 3,627                  | 1,586,514          | 416,245    | 411,031    | 398,722    | 2,812,512   | 3,854,560          | 341,692    | 466,403    | 538,492    |
| 2003          | 3,393                  | 1,777,923          | 549,313    | 567,865    | 354,483    | 3,249,584   | 2,352,925          | 366,425    | 576,304    | 965,154    |
| 2004          | 3,455                  | 1,602,959          | 638,663    | 738,316    | 818,552    | 3,798,489   | 3,346,328          | 511,141    | 747,866    | 701,021    |
| 2005          | 3,452                  | 1,061,615          | 324,888    | 767,626    | 412,975    | 2,567,104   | 3,319,589          | 263,886    | 429,373    | 811,619    |
| 2006          | 3,867                  | 813,421            | 258,102    | 598,977    | 439,925    | 2,110,425   | 3,436,889          | 375,373    | 746,443    | 597,416    |
| 2007          | 2,992                  | 1,109,394          | 259,723    | 461,131    | 291,602    | 2,121,850   | 5,048,551          | 690,347    | 595,474    | 784,828    |
| 2008          | 3,536                  | 865,570            | 251,956    | 520,063    | 622,266    | 2,259,856   | 5,262,367          | 678,439    | 752,698    | 920,367    |
| 2009          | 88                     | 1,250,193          | 298,837    | 608,611    | 564,525    | 2,722,165   | 4,002,421          | 669,660    | 704,864    | 1,348,870  |
| 2010          | 25                     | 72,812             | 140,875    | 1,086,845  | 294,504    | 4,235,052   | 4,534,313          | 583,979    | 815,985    | 716,271    |
| 2011          | 63                     | 2,625,807          | 608,645    | 1,213,530  | 430,214    | 4,878,196   | 5,176,103          | 837,326    | 875,807    | 500,280    |
| 2012          | 29                     | 2,409,537          | 163,305    | 1,432,122  | 1,139,235  | 5,144,199   | 5,359,174          | 1,121,136  | 762,367    | 836,845    |
| 2013          | 321                    | 3,282,622          | 145,951    | 476,257    | 381,027    | 4,285,858   | 6,203,840          | 1,234,734  | 675,657    | 1,119,087  |
| 2014          | 153                    | 3,772,836          | 341,072    | 1,027,194  | 579,763    | 5,720,865   | 6,300,651          | 1,203,235  | 880,626    | 1,100,607  |
| 2015          | 175                    | 3,849,378          | 389,799    | 1,173,417  | 661,946    | 6,074,540   | 7,189,722          | 1,370,749  | 1,009,007  | 1,160,888  |
| 2016          | 183                    | 3,703,709          | 407,467    | 1,226,664  | 691,870    | 6,029,710   | 7,507,397          | 1,431,778  | 1,051,594  | 1,204,465  |
| 2017          | 172                    | 3,813,061          | 383,240    | 1,153,849  | 650,971    | 6,001,121   | 7,069,249          | 1,348,607  | 990,213    | 1,166,873  |
| 2018          | 173                    | 3,851,192          | 387,073    | 1,165,388  | 657,481    | 6,061,134   | 7,139,941          | 1,362,093  | 1,000,115  | 1,178,542  |
| 2019          | 175                    | 3,889,704          | 390,944    | 1,177,042  | 664,056    | 6,121,746   | 7,211,340          | 1,375,714  | 1,010,116  | 1,190,327  |
| 2020          | 177                    | 3,928,601          | 394,853    | 1,188,812  | 670,696    | 6,182,962   | 7,283,454          | 1,389,471  | 1,020,218  | 1,202,231  |
| 2021          | 179                    | 3,967,887          | 398,802    | 1,200,700  | 677,403    | 6,244,792   | 7,356,288          | 1,403,365  | 1,030,420  | 1,214,253  |
| 2022          | 180                    | 4,007,566          | 402,790    | 1,212,707  | 684,177    | 6,307,240   | 7,429,851          | 1,417,399  | 1,040,724  | 1,226,395  |
| 2023          | 182                    | 4,047,641          | 406,817    | 1,224,834  | 691,019    | 6,370,311   | 7,504,150          | 1,431,573  | 1,051,131  | 1,238,659  |
| 2024          | 184                    | 4,088,118          | 410,886    | 1,237,083  | 697,929    | 6,434,016   | 7,579,191          | 1,445,889  | 1,061,642  | 1,251,046  |
| 2025          | 186                    | 4,128,999          | 414,995    | 1,249,453  | 704,909    | 6,498,356   | 7,654,983          | 1,460,348  | 1,072,259  | 1,263,556  |
| 2026          | 188                    | 4,170,289          | 419,144    | 1,261,948  | 711,958    | 6,563,339   | 7,731,533          | 1,474,951  | 1,082,981  | 1,276,192  |
| 2027          | 190                    | 4,211,992          | 423,336    | 1,274,567  | 719,077    | 6,628,972   | 7,808,848          | 1,489,701  | 1,093,811  | 1,288,954  |
| 2028          | 192                    | 4,254,112          | 427,569    | 1,287,313  | 726,268    | 6,695,262   | 7,886,937          | 1,504,598  | 1,104,749  | 1,301,843  |
| 2029          | 193                    | 4,296,653          | 431,845    | 1,300,186  | 733,531    | 6,762,215   | 7,965,806          | 1,519,644  | 1,115,797  | 1,314,862  |
| 2030          | 195                    | 4,339,619          | 436,163    | 1,313,188  | 740,866    | 6,829,836   | 8,045,464          | 1,534,840  | 1,126,955  | 1,328,011  |
| 2031          | 197                    | 4,383,015          | 440,525    | 1,326,320  | 748,275    | 6,898,135   | 8,125,919          | 1,550,188  | 1,138,224  | 1,341,291  |
| 2032          | 199                    | 4,426,846          | 444,930    | 1,339,583  | 755,757    | 6,967,116   | 8,207,178          | 1,565,690  | 1,149,607  | 1,354,704  |
| 2033          | 201                    | 4,471,114          | 449,380    | 1,352,979  | 763,315    | 7,036,788   | 8,289,250          | 1,581,347  | 1,161,103  | 1,368,251  |
| 2034          | 203                    | 4,515,825          | 453,873    | 1,366,509  | 770,948    | 7,107,155   | 8,372,142          | 1,597,161  | 1,172,714  | 1,381,933  |
| 2035          | 205                    | 4,560,983          | 458,412    | 1,380,174  | 778,658    | 7,178,227   | 8,455,864          | 1,613,132  | 1,184,441  | 1,395,752  |
| TOTAL         | 97,374                 | 119,572,690        | 16,391,351 | 39,795,409 | 28,171,026 | 203,930,476 | 282,398,631        | 46,425,672 | 41,486,700 | 45,018,494 |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 2 of 9

| Calendar Year | SOUTH BAY AQUEDUCT (continued) |           |           |            |             | CALIFORNIA AQUEDUCT        |             |            |               |
|---------------|--------------------------------|-----------|-----------|------------|-------------|----------------------------|-------------|------------|---------------|
|               |                                |           |           |            |             | NORTH SAN JOAQUIN DIVISION |             |            |               |
|               | Reach 6                        | Reach 7   | Reach 8   | Reach 9    | Total       | Reach 1                    | Reach 2A    | Reach 2B   | Subtotal      |
|               | [11]                           | [12]      | [13]      | [14]       | [15]        | [16]                       | [17]        | [18]       | [19]          |
| 1961          | 0                              | 0         | 0         | 0          | 0           | 0                          | 0           | 0          | 0             |
| 1962          | 0                              | 0         | 0         | 0          | 42,918      | 0                          | 0           | 0          | 0             |
| 1963          | 0                              | 0         | 0         | 0          | 168,358     | 0                          | 0           | 0          | 0             |
| 1964          | 0                              | 0         | 0         | 0          | 184,729     | 0                          | 0           | 0          | 0             |
| 1965          | 2,634                          | 6,490     | 4,704     | 12,904     | 378,874     | 0                          | 0           | 0          | 0             |
| 1966          | 4,707                          | 10,328    | 9,233     | 25,519     | 408,397     | 0                          | 0           | 0          | 0             |
| 1967          | 2,712                          | 7,659     | 10,812    | 34,347     | 634,505     | 0                          | 0           | 0          | 0             |
| 1968          | 3,109                          | 7,960     | 10,166    | 40,372     | 584,482     | 1,001,998                  | 228,359     | 103,116    | 1,333,473     |
| 1969          | 3,944                          | 5,975     | 8,795     | 38,566     | 669,346     | 933,116                    | 301,596     | 188,194    | 1,422,906     |
| 1970          | 2,464                          | (1,991)   | 6,870     | 28,210     | 598,348     | 971,602                    | 306,198     | 151,539    | 1,429,339     |
| 1971          | 3,116                          | 9,394     | 9,895     | 31,068     | 526,068     | 1,103,021                  | 254,786     | 113,694    | 1,471,501     |
| 1972          | 5,125                          | 10,247    | 12,054    | 44,699     | 607,578     | 1,107,855                  | 230,906     | 110,109    | 1,448,870     |
| 1973          | 4,178                          | 7,500     | 4,890     | 43,816     | 570,551     | 1,150,864                  | 221,445     | 100,221    | 1,472,530     |
| 1974          | 7,812                          | 7,564     | 5,523     | 48,054     | 727,158     | 1,272,034                  | 231,383     | 117,156    | 1,620,573     |
| 1975          | 18,120                         | 14,683    | 18,325    | 68,377     | 908,648     | 1,434,736                  | 455,110     | 201,075    | 2,090,921     |
| 1976          | 10,873                         | 5,557     | 19,920    | 49,921     | 963,429     | 1,519,801                  | 217,348     | 453,400    | 2,190,549     |
| 1977          | (240)                          | 2,228     | 8,391     | 88,579     | 866,312     | 1,913,643                  | 292,380     | 196,564    | 2,402,587     |
| 1978          | (1,404)                        | 16,766    | (5,313)   | 104,078    | 1,137,690   | 1,860,456                  | 306,503     | 188,214    | 2,355,173     |
| 1979          | 1,269                          | 29,294    | 7,351     | 106,835    | 1,176,630   | 1,848,109                  | 231,339     | 145,205    | 2,224,653     |
| 1980          | 3,621                          | 24,270    | 17,404    | 110,852    | 1,850,865   | 2,365,292                  | 472,660     | 247,608    | 3,085,560     |
| 1981          | 4,038                          | 20,109    | 17,586    | 98,143     | 1,526,655   | 2,649,730                  | 435,226     | 154,191    | 3,239,147     |
| 1982          | 2,236                          | 22,870    | 21,919    | 202,590    | 1,893,405   | 3,192,710                  | 599,793     | 244,664    | 4,037,167     |
| 1983          | (2,047)                        | 48,781    | 45,573    | 216,434    | 2,177,375   | 4,244,937                  | 802,908     | 273,081    | 5,320,926     |
| 1984          | 4,449                          | 44,017    | 23,563    | 455,054    | 3,014,669   | 4,373,157                  | 808,917     | 290,728    | 5,472,802     |
| 1985          | 13,097                         | 74,565    | 57,920    | 238,067    | 3,310,486   | 4,717,323                  | 629,825     | 189,199    | 5,536,347     |
| 1986          | 11,614                         | 31,084    | 46,864    | 363,350    | 3,037,861   | 5,217,491                  | 929,919     | 359,365    | 6,506,775     |
| 1987          | 15,273                         | 25,182    | 37,949    | 416,375    | 3,461,081   | 5,292,200                  | 958,927     | 362,065    | 6,613,192     |
| 1988          | 30,207                         | 41,047    | 49,156    | 335,408    | 3,380,894   | 5,329,317                  | 822,300     | 360,336    | 6,511,953     |
| 1989          | 9,740                          | 54,881    | 114,203   | 179,323    | 3,504,088   | 5,753,966                  | 851,745     | 907,609    | 7,513,320     |
| 1990          | 31,161                         | 69,416    | 119,309   | 247,781    | 3,878,574   | 6,788,986                  | 1,066,314   | 883,822    | 8,739,122     |
| 1991          | 22,434                         | (18,690)  | 99,577    | 262,052    | 2,514,312   | 6,796,247                  | 1,067,078   | 585,008    | 8,448,333     |
| 1992          | 26,787                         | 332,012   | 98,670    | 186,640    | 3,888,347   | 9,415,121                  | 1,419,603   | 673,833    | 11,508,557    |
| 1993          | 24,845                         | 181,592   | 94,169    | 316,045    | 6,043,803   | 10,274,070                 | 1,371,074   | 900,996    | 12,546,140    |
| 1994          | 28,383                         | 90,791    | 80,942    | 416,061    | 6,404,342   | 8,451,199                  | 1,325,511   | 802,217    | 10,578,927    |
| 1995          | 29,298                         | 64,012    | 80,278    | 373,657    | 5,610,923   | 10,406,784                 | 2,386,507   | 959,685    | 13,752,976    |
| 1996          | (1,020)                        | 60,610    | 11,672    | 312,097    | 5,322,208   | 10,246,985                 | 2,604,651   | 628,177    | 13,479,813    |
| 1997          | 18,428                         | 95,321    | 15,691    | 335,566    | 4,486,995   | 10,429,338                 | 1,098,381   | 2,084,859  | 13,612,578    |
| 1998          | 26,323                         | 54,255    | 611,290   | 658,090    | 5,577,354   | 11,409,135                 | 1,449,411   | 5,364,368  | 18,222,914    |
| 1999          | 50,555                         | 36,519    | 430,229   | 2,035,938  | 7,682,573   | 11,604,989                 | 1,444,270   | 1,338,751  | 14,388,009    |
| 2000          | 135,659                        | 87,477    | 185,352   | 640,387    | 6,392,010   | 12,608,781                 | 893,969     | 641,868    | 14,144,617    |
| 2001          | 112,967                        | 188,991   | 197,715   | 1,048,040  | 5,409,426   | 17,554,406                 | 1,386,320   | 755,810    | 19,696,537    |
| 2002          | 143,698                        | 171,099   | 500,887   | 2,780,200  | 8,797,032   | 14,393,881                 | 860,342     | 618,786    | 15,873,010    |
| 2003          | 78,088                         | 97,972    | 248,074   | 987,795    | 5,672,737   | 16,535,395                 | 1,744,997   | 755,647    | 19,036,039    |
| 2004          | 156,690                        | 179,275   | 205,599   | 454,472    | 6,302,393   | 13,910,225                 | 1,213,840   | 681,865    | 15,805,930    |
| 2005          | 143,222                        | 202,538   | 135,810   | 224,827    | 5,530,864   | 12,477,085                 | 1,945,237   | 877,373    | 15,299,695    |
| 2006          | 143,293                        | 123,326   | 79,143    | 388,556    | 5,890,438   | 13,757,327                 | 1,932,792   | 1,266,705  | 16,956,825    |
| 2007          | 78,834                         | 118,037   | 71,987    | 253,857    | 7,641,915   | 12,009,038                 | 1,718,519   | 642,157    | 14,369,714    |
| 2008          | 171,199                        | 160,526   | 238,879   | 252,919    | 8,437,395   | 15,638,323                 | 1,478,170   | 827,204    | 17,943,697    |
| 2009          | 84,414                         | 143,589   | 117,890   | 628,506    | 7,700,212   | 13,702,586                 | 1,087,109   | 871,311    | 15,661,005    |
| 2010          | 53,401                         | 580,364   | 29,668    | 470,652    | 7,784,633   | 13,183,212                 | 2,219,937   | 1,502,531  | 16,905,681    |
| 2011          | 83,115                         | 80,700    | 63,458    | 485,559    | 8,102,347   | 16,703,013                 | 2,832,921   | 1,460,349  | 20,996,284    |
| 2012          | 57,150                         | 137,189   | 66,721    | 2,514,485  | 10,855,068  | 15,276,812                 | 1,416,304   | 1,364,427  | 18,057,543    |
| 2013          | 83,988                         | 180,259   | 103,112   | 1,189,671  | 10,790,348  | 18,688,338                 | 2,188,031   | 2,713,089  | 23,589,458    |
| 2014          | 83,265                         | 149,398   | 87,643    | 1,066,306  | 10,871,731  | 23,838,619                 | 2,200,950   | 2,308,770  | 28,348,339    |
| 2015          | 94,862                         | 169,958   | 99,764    | 2,707,897  | 13,802,847  | 27,196,157                 | 2,302,658   | 2,112,127  | 31,610,942    |
| 2016          | 99,092                         | 177,594   | 104,221   | 3,277,785  | 14,853,926  | 26,127,705                 | 2,347,742   | 2,196,599  | 30,672,046    |
| 2017          | 93,330                         | 167,307   | 98,181    | 2,374,170  | 13,307,930  | 25,978,035                 | 2,306,621   | 2,227,890  | 30,512,546    |
| 2018          | 94,263                         | 168,980   | 99,163    | 2,397,911  | 13,441,008  | 26,237,816                 | 2,329,687   | 2,250,169  | 30,817,672    |
| 2019          | 95,206                         | 170,669   | 100,155   | 2,421,890  | 13,575,417  | 26,500,194                 | 2,352,984   | 2,272,671  | 31,125,849    |
| 2020          | 96,158                         | 172,376   | 101,156   | 2,446,109  | 13,711,173  | 26,765,196                 | 2,376,514   | 2,295,398  | 31,437,108    |
| 2021          | 97,120                         | 174,100   | 102,168   | 2,470,570  | 13,848,284  | 27,032,848                 | 2,400,279   | 2,318,352  | 31,751,479    |
| 2022          | 98,091                         | 175,841   | 103,189   | 2,495,276  | 13,986,766  | 27,303,176                 | 2,424,282   | 2,341,535  | 32,068,993    |
| 2023          | 99,072                         | 177,599   | 104,221   | 2,520,229  | 14,126,634  | 27,576,208                 | 2,448,524   | 2,364,950  | 32,389,682    |
| 2024          | 100,062                        | 179,375   | 105,263   | 2,545,431  | 14,267,899  | 27,851,970                 | 2,473,010   | 2,388,600  | 32,713,580    |
| 2025          | 101,063                        | 181,169   | 106,316   | 2,570,886  | 14,410,580  | 28,130,490                 | 2,497,740   | 2,412,486  | 33,040,716    |
| 2026          | 102,074                        | 182,981   | 107,379   | 2,596,594  | 14,554,685  | 28,411,795                 | 2,522,717   | 2,436,611  | 33,371,123    |
| 2027          | 103,094                        | 184,810   | 108,453   | 2,622,560  | 14,700,231  | 28,695,913                 | 2,547,944   | 2,460,977  | 33,704,834    |
| 2028          | 104,125                        | 186,659   | 109,538   | 2,648,786  | 14,847,235  | 28,982,872                 | 2,573,424   | 2,485,587  | 34,041,883    |
| 2029          | 105,167                        | 188,525   | 110,633   | 2,675,274  | 14,995,708  | 29,272,700                 | 2,599,158   | 2,510,443  | 34,382,301    |
| 2030          | 106,218                        | 190,410   | 111,739   | 2,702,027  | 15,145,664  | 29,565,427                 | 2,625,150   | 2,535,547  | 34,726,124    |
| 2031          | 107,280                        | 192,315   | 112,857   | 2,729,047  | 15,297,121  | 29,861,082                 | 2,651,401   | 2,560,902  | 35,073,385    |
| 2032          | 108,353                        | 194,238   | 113,985   | 2,756,337  | 15,450,092  | 30,159,692                 | 2,677,915   | 2,586,511  | 35,424,118    |
| 2033          | 109,437                        | 196,180   | 115,125   | 2,783,901  | 15,604,594  | 30,461,289                 | 2,704,694   | 2,612,377  | 35,778,360    |
| 2034          | 110,531                        | 198,142   | 116,276   | 2,811,740  | 15,760,639  | 30,765,902                 | 2,731,741   | 2,638,500  | 36,136,143    |
| 2035          | 111,637                        | 200,123   | 117,439   | 2,839,857  | 15,918,245  | 31,073,561                 | 2,759,059   | 2,664,885  | 36,497,505    |
| TOTAL         | 4,163,059                      | 7,922,387 | 6,784,738 | 77,306,377 | 511,506,057 | 979,303,282                | 103,595,056 | 87,640,059 | 1,170,538,396 |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 3 of 9

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |                   |                  |                |                  |                   |                            |                  |                  |
|---------------|---------------------------------|-------------------|------------------|----------------|------------------|-------------------|----------------------------|------------------|------------------|
|               | SAN LUIS DIVISION               |                   |                  |                |                  |                   | SOUTH SAN JOAQUIN DIVISION |                  |                  |
|               | Reach 3                         | Reach 4           | Reach 5          | Reach 6        | Reach 7          | Subtotal          | Reach 8C                   | Reach 8D         | Reach 9          |
|               | [20]                            | [21]              | [22]             | [23]           | [24]             | [25]              | [26]                       | [27]             | [28]             |
| 1961          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1962          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1963          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1964          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1965          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1966          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1967          | 0                               | 0                 | 0                | 0              | 0                | 0                 | 0                          | 0                | 0                |
| 1968          | 120,038                         | 428,308           | 130,105          | 44,591         | 104,033          | 827,075           | 0                          | 0                | 0                |
| 1969          | 90,033                          | 460,907           | 184,467          | 35,696         | 235,322          | 1,006,425         | 22,013                     | 134,760          | 86,103           |
| 1970          | 89,547                          | 484,300           | 226,002          | 66,070         | 192,582          | 1,058,501         | 26,207                     | 156,981          | 128,273          |
| 1971          | 99,917                          | 541,574           | 175,592          | 64,193         | 158,170          | 1,039,446         | 32,312                     | 190,753          | 118,372          |
| 1972          | 116,708                         | 647,979           | 174,519          | 73,670         | 154,783          | 1,167,659         | 35,031                     | 187,242          | 130,396          |
| 1973          | 116,791                         | 611,705           | 158,145          | 58,344         | 153,955          | 1,098,940         | 51,150                     | 225,747          | 127,530          |
| 1974          | 120,309                         | 671,455           | 150,835          | 63,905         | 150,230          | 1,156,734         | 34,752                     | 199,127          | 131,298          |
| 1975          | 133,593                         | 839,285           | 178,974          | 81,478         | 157,586          | 1,390,916         | 78,523                     | 250,377          | 159,006          |
| 1976          | 54,938                          | 883,956           | 220,832          | 90,305         | 174,835          | 1,424,866         | 39,348                     | 133,933          | 123,424          |
| 1977          | 73,331                          | 1,114,465         | 270,734          | 98,132         | 196,311          | 1,752,973         | 38,086                     | 121,348          | 178,078          |
| 1978          | 45,867                          | 898,992           | 203,261          | 106,938        | 203,079          | 1,458,137         | 45,552                     | 178,805          | 129,928          |
| 1979          | 223,973                         | 842,508           | 144,055          | 99,670         | 180,734          | 1,490,940         | 69,973                     | 150,679          | 129,756          |
| 1980          | 243,507                         | 1,176,463         | 222,942          | 127,625        | 281,860          | 2,052,397         | 57,726                     | 274,848          | 185,155          |
| 1981          | 265,766                         | 1,065,358         | 193,048          | 90,533         | 1,612,157        | 3,226,862         | 80,121                     | 198,256          | 144,187          |
| 1982          | 279,250                         | 1,241,285         | 209,371          | 114,421        | 1,433,180        | 3,277,507         | 59,424                     | 269,086          | 233,494          |
| 1983          | 214,468                         | 1,949,017         | 339,809          | 131,377        | 2,143,678        | 4,778,349         | 49,448                     | 383,476          | 223,078          |
| 1984          | 241,273                         | 2,233,969         | 335,166          | 163,858        | 2,111,386        | 5,085,652         | 42,062                     | 458,489          | 300,924          |
| 1985          | 322,068                         | 2,882,583         | 360,431          | 176,577        | 1,603,532        | 5,345,191         | 58,820                     | 495,500          | 213,368          |
| 1986          | 416,027                         | 2,996,792         | 472,551          | 252,188        | 601,250          | 4,738,808         | 90,730                     | 478,786          | 598,800          |
| 1987          | 362,738                         | 3,104,592         | 424,107          | 236,349        | 439,232          | 4,567,018         | 113,962                    | 412,042          | 446,067          |
| 1988          | 365,209                         | 2,954,186         | 456,864          | 231,754        | 639,242          | 4,647,255         | 96,728                     | 379,073          | 417,991          |
| 1989          | 263,171                         | 3,182,472         | 393,589          | 332,986        | 633,419          | 4,805,637         | 83,282                     | 389,698          | 400,853          |
| 1990          | 397,353                         | 4,011,110         | 579,073          | 464,639        | 729,132          | 6,181,307         | 111,019                    | 436,849          | 515,611          |
| 1991          | 256,473                         | 4,388,184         | 543,760          | 728,156        | 765,765          | 6,682,338         | 104,414                    | 496,794          | 465,940          |
| 1992          | 302,021                         | 3,792,401         | 795,587          | 363,134        | 815,590          | 6,068,733         | 118,315                    | 511,982          | 417,871          |
| 1993          | 439,725                         | 4,337,616         | 1,008,394        | 551,849        | 734,796          | 7,072,380         | 230,338                    | 745,885          | 490,159          |
| 1994          | 282,579                         | 4,376,461         | 816,129          | 396,768        | 492,860          | 6,364,797         | 125,398                    | 602,404          | 572,557          |
| 1995          | 107,995                         | 5,026,076         | 1,066,971        | 440,006        | 1,356,668        | 7,997,716         | 185,681                    | 657,282          | 432,072          |
| 1996          | 1,003,229                       | 4,738,221         | 931,944          | 683,323        | 1,034,376        | 8,391,093         | 112,062                    | 416,294          | 472,350          |
| 1997          | 859,665                         | 5,761,996         | 924,289          | 254,934        | 646,209          | 8,447,093         | 128,190                    | 449,316          | 728,436          |
| 1998          | 690,845                         | 5,520,206         | 1,242,589        | 534,931        | 654,538          | 8,643,109         | 115,748                    | 457,845          | 429,433          |
| 1999          | 601,726                         | 5,793,961         | 1,220,810        | 540,364        | 679,483          | 8,836,344         | 107,647                    | 426,289          | 440,869          |
| 2000          | 708,169                         | 5,826,574         | 1,028,776        | 525,073        | 871,710          | 8,960,301         | 103,853                    | 463,578          | 509,758          |
| 2001          | (577,350)                       | 7,163,270         | 850,673          | 372,421        | 677,868          | 8,486,881         | 58,396                     | 554,622          | 604,391          |
| 2002          | 1,075,107                       | 5,162,820         | 664,281          | 250,085        | 732,057          | 7,884,349         | 54,699                     | 729,884          | 416,531          |
| 2003          | 1,036,004                       | 6,049,399         | 747,526          | 303,818        | 619,980          | 8,756,727         | 62,676                     | 677,693          | 647,067          |
| 2004          | 622,332                         | 6,885,677         | 683,988          | 340,581        | 581,893          | 9,114,471         | 35,756                     | 475,332          | 335,958          |
| 2005          | 557,910                         | 6,009,442         | 990,414          | 405,681        | 803,967          | 8,767,414         | 28,876                     | 405,610          | 298,819          |
| 2006          | (44,598)                        | 6,142,480         | 1,599,743        | 638,044        | 930,890          | 9,266,559         | 48,023                     | 543,188          | 798,946          |
| 2007          | 1,115,357                       | 7,692,645         | 1,976,186        | 690,292        | 966,663          | 12,441,143        | 242,165                    | 859,626          | 540,327          |
| 2008          | 888,946                         | 10,702,810        | 2,170,185        | 667,440        | 1,013,607        | 15,442,988        | 72,281                     | 461,744          | 662,054          |
| 2009          | 956,443                         | 8,168,258         | 1,237,534        | 510,257        | 1,170,697        | 12,043,189        | 36,915                     | 771,027          | 482,385          |
| 2010          | 999,014                         | 9,589,825         | 1,634,518        | 579,145        | 1,359,584        | 14,162,086        | 68,133                     | 756,249          | 560,492          |
| 2011          | 1,105,996                       | 7,277,464         | 2,722,770        | 573,764        | 1,605,081        | 13,285,075        | 13,618                     | 613,364          | 803,416          |
| 2012          | 1,630,518                       | 10,363,612        | 2,306,625        | 612,263        | 1,205,447        | 16,118,465        | 37,440                     | 735,655          | 826,959          |
| 2013          | 2,268,790                       | 11,441,413        | 2,861,781        | 1,344,646      | 3,175,861        | 21,092,491        | 43,504                     | 678,028          | 670,408          |
| 2014          | 1,989,152                       | 13,103,942        | 3,994,033        | 649,576        | 2,643,407        | 22,380,110        | 66,324                     | 869,079          | 942,438          |
| 2015          | <b>2,108,790</b>                | <b>13,201,788</b> | <b>3,989,035</b> | <b>643,038</b> | <b>2,966,295</b> | <b>22,908,946</b> | <b>130,437</b>             | <b>1,137,167</b> | <b>1,145,177</b> |
| 2016          | 2,070,736                       | 13,004,295        | 3,558,772        | 462,511        | 2,869,996        | 21,966,310        | 99,939                     | 1,072,433        | 1,125,634        |
| 2017          | 2,076,788                       | 13,234,375        | 3,885,753        | 590,891        | 2,854,832        | 22,642,639        | 99,889                     | 1,036,488        | 1,081,794        |
| 2018          | 2,097,556                       | 13,366,719        | 3,924,610        | 596,800        | 2,883,380        | 22,869,065        | 100,888                    | 1,046,853        | 1,092,612        |
| 2019          | 2,118,532                       | 13,500,386        | 3,963,856        | 602,768        | 2,912,214        | 23,097,756        | 101,897                    | 1,057,322        | 1,103,538        |
| 2020          | 2,139,717                       | 13,635,390        | 4,003,495        | 608,796        | 2,941,336        | 23,328,734        | 102,916                    | 1,067,895        | 1,114,573        |
| 2021          | 2,161,114                       | 13,771,744        | 4,043,530        | 614,884        | 2,970,749        | 23,562,021        | 103,945                    | 1,078,574        | 1,125,719        |
| 2022          | 2,182,725                       | 13,909,462        | 4,083,965        | 621,033        | 3,000,457        | 23,797,642        | 104,984                    | 1,089,360        | 1,136,976        |
| 2023          | 2,204,553                       | 14,048,556        | 4,124,805        | 627,243        | 3,030,461        | 24,035,618        | 106,034                    | 1,100,253        | 1,148,346        |
| 2024          | 2,226,598                       | 14,189,042        | 4,166,053        | 633,516        | 3,060,766        | 24,275,975        | 107,095                    | 1,111,256        | 1,159,829        |
| 2025          | 2,248,864                       | 14,330,932        | 4,207,713        | 639,851        | 3,091,374        | 24,518,734        | 108,165                    | 1,122,368        | 1,171,428        |
| 2026          | 2,271,353                       | 14,474,241        | 4,249,791        | 646,249        | 3,122,287        | 24,763,921        | 109,247                    | 1,133,592        | 1,183,142        |
| 2027          | 2,294,066                       | 14,618,984        | 4,292,289        | 652,712        | 3,153,510        | 25,011,561        | 110,340                    | 1,144,928        | 1,194,973        |
| 2028          | 2,317,007                       | 14,765,174        | 4,335,211        | 659,239        | 3,185,045        | 25,261,676        | 111,443                    | 1,156,377        | 1,206,923        |
| 2029          | 2,340,177                       | 14,912,825        | 4,378,564        | 665,831        | 3,216,896        | 25,514,293        | 112,557                    | 1,167,941        | 1,218,992        |
| 2030          | 2,363,579                       | 15,061,954        | 4,422,349        | 672,490        | 3,249,065        | 25,769,437        | 113,683                    | 1,179,620        | 1,231,182        |
| 2031          | 2,387,215                       | 15,212,573        | 4,466,573        | 679,214        | 3,281,555        | 26,027,130        | 114,820                    | 1,191,417        | 1,243,494        |
| 2032          | 2,411,087                       | 15,364,699        | 4,511,238        | 686,007        | 3,314,371        | 26,287,402        | 115,968                    | 1,203,331        | 1,255,929        |
| 2033          | 2,435,198                       | 15,518,346        | 4,556,351        | 692,867        | 3,347,515        | 26,550,277        | 117,128                    | 1,215,364        | 1,268,488        |
| 2034          | 2,459,550                       | 15,673,529        | 4,601,914        | 699,795        | 3,380,990        | 26,815,778        | 118,299                    | 1,227,518        | 1,281,173        |
| 2035          | 2,484,145                       | 15,830,265        | 4,647,933        | 706,793        | 3,414,800        | 27,083,936        | 119,482                    | 1,239,793        | 1,293,985        |
| TOTAL         | 70,931,272                      | 502,163,292       | 128,637,777      | 29,564,377     | 105,076,579      | 836,373,298       | 5,825,877                  | 44,244,474       | 43,453,236       |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 4 of 9

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |                   |                   |                   |                   |                    |                   |                   |                    |
|---------------|--|-------------------|-------------------|-------------------|-------------------|--------------------|-------------------|-------------------|--------------------|
|               | SOUTH SAN JOAQUIN DIVISION (continued) |                   |                   |                   |                   |                    |                   |                   |                    |
|               | Reach 10A                              | Reach 11B         | Reach 12D         | Reach 12E         | Reach 13B         | Reach 14A          | Reach 14B         | Reach 14C         | Reach 15A          |
|               | [29]                                   | [30]              | [31]              | [32]              | [33]              | [34]               | [35]              | [36]              | [37]               |
| 1961          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1962          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1963          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1964          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1965          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1966          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1967          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1968          | 0                                      | 0                 | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1969          | 83,706                                 | 59,077            | 0                 | 0                 | 0                 | 0                  | 0                 | 0                 | 0                  |
| 1970          | 118,046                                | 85,758            | 94,171            | 123,374           | 152,424           | 0                  | 0                 | 0                 | 0                  |
| 1971          | 129,811                                | 80,282            | 95,075            | 91,389            | 167,142           | 691,791            | 151,979           | 111,623           | 529,723            |
| 1972          | 117,625                                | 84,287            | 98,647            | 115,592           | 146,096           | 877,535            | 124,831           | 101,479           | 609,058            |
| 1973          | 117,706                                | 92,257            | 74,238            | 114,843           | 221,385           | 961,855            | 120,106           | 99,429            | 692,748            |
| 1974          | 141,658                                | 98,103            | 74,914            | 193,523           | 141,540           | 898,272            | 143,866           | 115,649           | 853,098            |
| 1975          | 207,908                                | 124,105           | 61,799            | 117,194           | 108,154           | 1,156,757          | 180,614           | 119,889           | 988,045            |
| 1976          | 139,134                                | 69,715            | 33,655            | 147,908           | 134,063           | 1,124,051          | 177,086           | 114,133           | 1,037,799          |
| 1977          | 194,086                                | 108,644           | 91,547            | 175,039           | 137,975           | 1,397,006          | 203,837           | 119,467           | 1,339,196          |
| 1978          | 168,634                                | 106,702           | 72,585            | 170,578           | 151,120           | 1,254,043          | 139,662           | 132,224           | 1,265,813          |
| 1979          | 175,107                                | 85,942            | 56,331            | 174,147           | 150,029           | 1,490,461          | 201,935           | 260,981           | 1,216,126          |
| 1980          | 284,207                                | 120,896           | 123,120           | 167,249           | 164,749           | 1,988,619          | 189,132           | 238,607           | 1,437,614          |
| 1981          | 199,927                                | 76,965            | 33,322            | 113,202           | 171,669           | 1,741,488          | 163,934           | 161,182           | 1,799,832          |
| 1982          | 264,947                                | 158,178           | 142,631           | 224,170           | 224,051           | 1,793,867          | 195,086           | 15,768            | 1,933,859          |
| 1983          | 308,801                                | 136,350           | 124,724           | 203,733           | 217,324           | 2,421,794          | 199,708           | 181,879           | 2,550,842          |
| 1984          | 396,448                                | 163,331           | 108,212           | 188,724           | 245,764           | 3,312,127          | 329,490           | 204,332           | 3,215,901          |
| 1985          | 298,337                                | 198,368           | 154,995           | 194,327           | 360,308           | 3,463,178          | 237,127           | 180,068           | 3,427,049          |
| 1986          | 422,493                                | 248,170           | 242,460           | 346,410           | 349,369           | 3,781,427          | 320,984           | 360,156           | 3,574,451          |
| 1987          | 488,226                                | 334,059           | 325,697           | 469,378           | 322,824           | 3,731,912          | 463,757           | 238,813           | 4,080,465          |
| 1988          | 532,489                                | 290,881           | 220,658           | 374,653           | 318,253           | 3,451,893          | 411,110           | 313,806           | 3,746,920          |
| 1989          | 733,030                                | 268,025           | 207,487           | 595,433           | 380,883           | 3,512,884          | 333,996           | 220,978           | 3,751,081          |
| 1990          | 651,465                                | 363,652           | 225,171           | 480,738           | 677,729           | 4,021,727          | 439,953           | 212,851           | 4,381,843          |
| 1991          | 716,328                                | 328,683           | 269,873           | 371,312           | 433,313           | 4,309,082          | 424,704           | 273,169           | 4,566,702          |
| 1992          | 574,145                                | 334,579           | 270,768           | 409,314           | 423,717           | 4,734,368          | 729,211           | 571,412           | 4,270,793          |
| 1993          | 723,450                                | 413,722           | 278,375           | 496,851           | 594,201           | 5,182,830          | 664,063           | 423,780           | 5,266,124          |
| 1994          | 703,493                                | 346,600           | 239,873           | 482,301           | 445,909           | 4,012,614          | 414,899           | 254,393           | 3,727,019          |
| 1995          | 881,902                                | 405,045           | 242,253           | 622,654           | 507,102           | 4,607,154          | 309,283           | 315,905           | 3,973,757          |
| 1996          | 984,784                                | 367,570           | 238,622           | 519,560           | 604,736           | 4,892,967          | 214,773           | 187,784           | 4,331,630          |
| 1997          | 1,864,113                              | 309,696           | 254,080           | 516,115           | 429,771           | 5,094,202          | 261,221           | 251,389           | 4,011,366          |
| 1998          | 1,011,284                              | 295,927           | 170,556           | 384,226           | 484,072           | 4,752,549          | 309,440           | 248,178           | 4,694,822          |
| 1999          | 1,161,363                              | 395,036           | 195,417           | 423,158           | 542,097           | 5,103,420          | 342,515           | 221,942           | 4,894,215          |
| 2000          | 919,469                                | 404,362           | 327,150           | 648,418           | 562,412           | 5,945,146          | 344,498           | 142,466           | 5,359,955          |
| 2001          | 871,889                                | 416,214           | 896,678           | 521,912           | 661,676           | 4,694,761          | (137,575)         | (97,259)          | 6,010,462          |
| 2002          | 1,308,649                              | 380,653           | 296,837           | 958,653           | 860,806           | 5,944,088          | 31,933            | 251,389           | 5,591,499          |
| 2003          | 820,529                                | 340,822           | 236,702           | 692,521           | 615,715           | 6,174,346          | (135,976)         | 18,962            | 6,997,457          |
| 2004          | 606,737                                | 246,360           | 176,853           | 626,301           | 588,304           | 7,253,252          | (136,779)         | (164,022)         | 8,922,010          |
| 2005          | 900,920                                | 212,972           | 119,558           | 851,907           | 470,209           | 6,254,986          | (178,943)         | (189,967)         | 5,894,365          |
| 2006          | 493,220                                | 202,083           | 65,084            | 769,920           | 517,797           | 5,143,741          | (153,011)         | (161,762)         | 8,328,125          |
| 2007          | 636,231                                | 266,168           | 298,817           | 554,080           | 559,096           | 6,695,046          | (417,231)         | (330,122)         | 10,875,861         |
| 2008          | 945,461                                | 434,790           | 242,767           | 426,510           | 729,151           | 11,167,443         | (230,374)         | (179,321)         | 12,969,188         |
| 2009          | 931,981                                | 419,268           | 221,266           | 622,546           | 559,861           | 7,803,541          | 557,159           | (63,395)          | 8,839,348          |
| 2010          | 736,973                                | 458,531           | 123,868           | 432,084           | 719,255           | 7,870,909          | (164,664)         | (60,101)          | 6,667,441          |
| 2011          | 1,171,634                              | 632,354           | 321,109           | 880,643           | 1,594,958         | 8,884,778          | (223,246)         | (35,642)          | 6,276,464          |
| 2012          | 833,657                                | 815,339           | 292,731           | 1,070,464         | 3,257,177         | 11,659,244         | 401,526           | 457,844           | 9,460,652          |
| 2013          | 1,104,041                              | 532,224           | 499,250           | 981,181           | 903,175           | 13,195,991         | 303,773           | 182,158           | 11,365,168         |
| 2014          | 1,359,434                              | 796,001           | 534,409           | 1,202,574         | 1,803,643         | 12,968,083         | 694,200           | 502,605           | 8,709,455          |
| <b>2015</b>   | <b>1,619,545</b>                       | <b>946,900</b>    | <b>735,135</b>    | <b>1,420,264</b>  | <b>2,346,801</b>  | <b>14,068,373</b>  | <b>999,260</b>    | <b>558,458</b>    | <b>8,563,258</b>   |
| 2016          | 1,505,304                              | 949,653           | 625,104           | 1,417,367         | 2,239,477         | 14,590,119         | 879,397           | 582,226           | 8,813,268          |
| 2017          | 1,509,709                              | 906,493           | 637,864           | 1,360,202         | 2,151,274         | 14,014,280         | 866,195           | 553,241           | 8,782,280          |
| 2018          | 1,524,806                              | 915,558           | 644,243           | 1,373,804         | 2,172,786         | 14,154,423         | 874,857           | 558,773           | 8,870,103          |
| 2019          | 1,540,054                              | 924,714           | 650,686           | 1,387,542         | 2,194,514         | 14,295,967         | 883,606           | 564,361           | 8,958,804          |
| 2020          | 1,555,454                              | 933,961           | 657,192           | 1,401,418         | 2,216,459         | 14,438,927         | 892,442           | 570,004           | 9,048,392          |
| 2021          | 1,571,009                              | 943,300           | 663,764           | 1,415,432         | 2,238,624         | 14,583,316         | 901,366           | 575,704           | 9,138,876          |
| 2022          | 1,586,719                              | 952,733           | 670,402           | 1,429,566         | 2,261,010         | 14,729,149         | 910,380           | 581,461           | 9,230,265          |
| 2023          | 1,602,586                              | 962,261           | 677,106           | 1,443,882         | 2,283,620         | 14,876,441         | 919,484           | 587,276           | 9,322,567          |
| 2024          | 1,618,612                              | 971,883           | 683,877           | 1,458,321         | 2,306,457         | 15,025,205         | 928,678           | 593,149           | 9,415,793          |
| 2025          | 1,634,798                              | 981,602           | 690,716           | 1,472,904         | 2,329,521         | 15,175,457         | 937,965           | 599,080           | 9,509,951          |
| 2026          | 1,651,146                              | 991,418           | 697,623           | 1,487,633         | 2,352,816         | 15,327,212         | 947,345           | 605,071           | 9,605,051          |
| 2027          | 1,667,658                              | 1,001,332         | 704,599           | 1,502,510         | 2,376,345         | 15,480,484         | 956,818           | 611,122           | 9,701,101          |
| 2028          | 1,684,334                              | 1,011,346         | 711,645           | 1,517,535         | 2,400,108         | 15,635,289         | 966,387           | 617,233           | 9,798,112          |
| 2029          | 1,701,177                              | 1,021,459         | 718,762           | 1,532,710         | 2,424,109         | 15,791,642         | 976,050           | 623,405           | 9,896,093          |
| 2030          | 1,718,189                              | 1,031,674         | 725,949           | 1,548,037         | 2,448,350         | 15,949,558         | 985,811           | 629,639           | 9,995,054          |
| 2031          | 1,735,371                              | 1,041,991         | 733,209           | 1,563,518         | 2,472,834         | 16,109,054         | 995,669           | 635,936           | 10,095,005         |
| 2032          | 1,752,725                              | 1,052,410         | 740,541           | 1,579,153         | 2,497,562         | 16,270,144         | 1,005,626         | 642,295           | 10,195,955         |
| 2033          | 1,770,252                              | 1,062,935         | 747,946           | 1,594,944         | 2,522,538         | 16,432,846         | 1,015,682         | 648,718           | 10,297,914         |
| 2034          | 1,787,955                              | 1,073,564         | 755,426           | 1,610,894         | 2,547,763         | 16,597,174         | 1,025,839         | 655,205           | 10,400,893         |
| 2035          | 1,805,834                              | 1,084,300         | 762,980           | 1,627,003         | 2,573,241         | 16,763,146         | 1,036,097         | 661,757           | 10,504,902         |
| <b>TOTAL</b>  | <b>62,978,716</b>                      | <b>33,870,233</b> | <b>24,109,303</b> | <b>51,391,466</b> | <b>73,167,211</b> | <b>527,725,432</b> | <b>28,858,547</b> | <b>19,203,434</b> | <b>404,578,777</b> |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 5 of 9

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |               |                    |            |               |                 |            |            |             |   |
|---------------|--|---------------|--------------------|------------|---------------|-----------------|------------|------------|-------------|---|
|               | SOUTH SAN JOAQUIN DIVISION (continued) |               | TEHACHAPI DIVISION |            |               | MOJAVE DIVISION |            |            |             |   |
|               | Reach 16A                              | Subtotal      | Reach 17E          | Reach 17F  | Subtotal      | Reach 18A       | Reach 19   | Reach 20A  | Reach 20B   |   |
|               | [38]                                   | [39]          | [40]               | [41]       | [42]          | [43]            | [44]       | [45]       | [46]        |   |
| 1961          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1962          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1963          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1964          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1965          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1966          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1967          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1968          | 0                                      | 0             | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1969          | 0                                      | 385,659       | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1970          | 0                                      | 885,234       | 0                  | 0          | 0             | 0               | 0          | 0          | 0           | 0 |
| 1971          | 10,291                                 | 2,400,543     | 3,471              | 0          | 3,471         | 0               | 0          | 0          | 0           | 0 |
| 1972          | 1,106,884                              | 3,734,703     | 1,424,782          | 28,127     | 1,452,909     | 36,699          | 135,675    | 130,711    | 120,271     |   |
| 1973          | 1,243,941                              | 4,142,935     | 1,777,260          | 49,949     | 1,827,209     | 36,207          | 146,739    | 161,838    | 148,631     |   |
| 1974          | 1,343,972                              | 4,369,772     | 2,298,091          | 16,259     | 2,314,350     | 30,525          | 90,404     | 115,571    | 88,200      |   |
| 1975          | 1,537,862                              | 5,090,233     | 2,403,430          | 35,193     | 2,438,623     | 40,588          | 122,584    | 137,684    | 118,898     |   |
| 1976          | 1,727,428                              | 5,001,677     | 2,776,194          | 126,653    | 2,902,847     | 118,610         | 201,215    | 182,927    | 151,555     |   |
| 1977          | 1,961,081                              | 6,065,390     | 3,845,464          | 83,936     | 3,929,400     | 93,565          | 226,906    | 180,884    | 112,589     |   |
| 1978          | 1,922,950                              | 5,738,596     | 2,954,313          | 42,637     | 2,996,950     | 91,815          | 200,759    | 215,673    | 120,584     |   |
| 1979          | 1,798,566                              | 5,960,033     | 3,539,402          | 45,997     | 3,585,399     | 99,670          | 307,386    | 261,205    | 194,104     |   |
| 1980          | 2,231,456                              | 7,463,378     | 4,749,245          | 54,806     | 4,804,051     | 116,487         | 446,175    | 290,719    | 237,250     |   |
| 1981          | 2,762,773                              | 7,646,858     | 5,485,957          | 64,886     | 5,550,843     | 316,590         | 585,003    | 325,112    | 292,081     |   |
| 1982          | 2,961,383                              | 8,475,944     | 6,349,080          | 55,997     | 6,405,077     | 447,739         | 638,615    | 275,763    | 330,502     |   |
| 1983          | 4,302,165                              | 11,303,322    | 14,153,033         | 96,397     | 14,249,430    | 345,229         | 564,698    | 368,139    | 326,767     |   |
| 1984          | 5,077,824                              | 14,043,628    | 18,448,383         | 77,201     | 18,525,584    | 267,497         | 563,588    | 413,443    | 329,933     |   |
| 1985          | 5,683,454                              | 14,964,899    | 18,134,698         | 137,928    | 18,272,626    | 298,932         | 475,028    | 450,444    | 388,327     |   |
| 1986          | 5,780,666                              | 16,593,102    | 19,297,129         | 109,938    | 19,407,067    | 703,413         | 350,906    | 347,690    | 315,566     |   |
| 1987          | 5,636,043                              | 17,063,245    | 17,398,908         | 98,355     | 17,497,263    | 1,261,056       | 558,996    | 818,475    | 357,971     |   |
| 1988          | 5,150,238                              | 15,704,693    | 17,697,838         | 138,405    | 17,836,243    | 1,242,139       | 560,911    | 585,014    | 400,005     |   |
| 1989          | 5,458,633                              | 16,336,263    | 17,641,151         | 88,488     | 17,729,639    | 1,049,615       | 283,065    | 366,590    | 345,614     |   |
| 1990          | 6,440,643                              | 18,959,051    | 19,995,760         | 99,868     | 20,095,628    | 1,298,537       | 229,083    | 469,502    | 202,412     |   |
| 1991          | 5,805,189                              | 18,565,503    | 19,903,346         | 131,558    | 20,034,904    | 1,432,360       | 665,443    | 1,025,089  | 516,257     |   |
| 1992          | 6,471,964                              | 19,838,439    | 18,194,788         | 279,610    | 18,474,398    | 1,167,898       | 738,238    | 666,181    | 696,623     |   |
| 1993          | 7,583,165                              | 23,092,943    | 19,051,939         | 199,640    | 19,251,579    | 1,868,745       | 606,763    | 1,232,409  | 818,675     |   |
| 1994          | 7,142,378                              | 19,069,838    | 17,354,702         | 204,963    | 17,559,665    | 1,699,479       | 763,493    | 1,145,700  | 957,350     |   |
| 1995          | 6,540,575                              | 19,680,665    | 19,360,033         | 191,516    | 19,551,549    | 1,284,146       | 614,314    | 1,941,939  | 2,411,412   |   |
| 1996          | 7,065,052                              | 20,408,184    | 19,041,451         | 237,846    | 19,279,297    | 1,163,708       | 576,674    | 1,335,804  | 1,713,145   |   |
| 1997          | 7,387,904                              | 21,710,020    | 19,724,881         | 176,120    | 19,901,001    | 1,330,450       | 730,628    | 1,401,562  | 2,043,179   |   |
| 1998          | 7,530,927                              | 20,885,007    | 23,227,152         | 182,754    | 23,409,906    | 1,513,656       | 309,052    | 7,568,901  | 508,030     |   |
| 1999          | 8,835,442                              | 23,089,410    | 19,935,866         | 160,568    | 20,096,454    | 3,153,935       | 732,113    | 5,398,788  | 1,667,027   |   |
| 2000          | 12,461,593                             | 28,192,658    | 23,226,081         | 243,938    | 23,470,019    | 1,868,145       | 727,509    | 1,371,226  | 1,426,706   |   |
| 2001          | 15,789,253                             | 30,845,420    | 24,050,600         | 618,564    | 24,669,164    | 2,441,255       | 2,555,606  | 1,847,442  | 1,531,140   |   |
| 2002          | 11,455,167                             | 28,280,787    | 20,735,130         | 472,442    | 21,207,572    | 1,399,590       | 801,160    | 757,658    | 584,504     |   |
| 2003          | 11,513,908                             | 28,662,421    | 20,858,664         | 283,463    | 21,142,127    | 3,736,202       | 678,826    | 711,735    | 625,670     |   |
| 2004          | 14,650,087                             | 33,616,149    | 26,623,316         | 246,187    | 26,869,503    | 1,825,870       | 1,375,392  | 1,323,174  | 1,044,919   |   |
| 2005          | 13,868,124                             | 28,937,435    | 16,422,658         | 1,499,101  | 17,921,759    | 2,846,659       | 1,504,362  | 1,543,781  | 881,513     |   |
| 2006          | 13,772,913                             | 30,368,266    | 14,990,936         | 310,206    | 15,201,142    | 4,469,616       | 1,325,272  | 1,211,281  | 2,931,855   |   |
| 2007          | 8,487,997                              | 29,268,062    | 15,976,692         | 386,759    | 16,363,451    | 5,933,584       | 1,646,236  | 1,807,800  | 1,834,230   |   |
| 2008          | 10,975,053                             | 38,676,747    | 23,356,162         | 374,259    | 23,730,420    | 2,308,771       | 1,390,881  | 1,274,043  | 844,356     |   |
| 2009          | 13,359,019                             | 34,540,921    | 23,125,859         | 195,137    | 23,320,995    | 2,560,949       | 1,546,003  | 1,345,619  | 1,172,401   |   |
| 2010          | 9,603,667                              | 27,772,837    | 14,303,111         | 310,327    | 14,613,338    | 3,440,973       | 1,636,435  | 2,641,266  | 1,754,357   |   |
| 2011          | 15,968,252                             | 36,901,701    | 18,849,835         | 179,951    | 19,029,786    | 2,577,809       | 1,786,735  | 2,323,763  | 2,225,033   |   |
| 2012          | 13,129,166                             | 42,977,854    | 21,394,842         | 261,265    | 21,656,107    | 5,144,729       | 1,524,195  | 1,654,924  | 2,757,133   |   |
| 2013          | 16,168,004                             | 46,626,905    | 35,372,632         | 301,684    | 35,674,316    | 6,217,344       | 1,782,687  | 1,387,730  | 3,196,153   |   |
| 2014          | 17,626,670                             | 48,074,915    | 32,474,610         | 255,509    | 32,730,119    | 5,066,442       | 1,516,101  | 1,688,738  | 3,713,757   |   |
| 2015          | 15,659,583                             | 49,330,358    | 31,380,418         | 288,895    | 31,669,313    | 8,007,711       | 1,672,034  | 1,889,781  | 2,676,225   |   |
| 2016          | 17,381,573                             | 51,281,494    | 27,816,659         | 301,708    | 28,118,367    | 5,990,349       | 1,733,271  | 1,966,440  | 2,787,719   |   |
| 2017          | 17,058,168                             | 50,057,877    | 30,862,801         | 284,857    | 31,147,658    | 6,418,382       | 1,656,874  | 1,866,803  | 3,089,826   |   |
| 2018          | 17,228,749                             | 50,558,455    | 31,171,429         | 287,706    | 31,459,135    | 6,482,566       | 1,673,442  | 1,885,471  | 3,120,725   |   |
| 2019          | 17,401,037                             | 51,064,042    | 31,483,144         | 290,583    | 31,773,727    | 6,547,392       | 1,690,177  | 1,904,326  | 3,151,932   |   |
| 2020          | 17,575,047                             | 51,574,680    | 31,797,975         | 293,489    | 32,091,464    | 6,612,866       | 1,707,079  | 1,923,369  | 3,183,451   |   |
| 2021          | 17,750,798                             | 52,090,427    | 32,115,955         | 296,424    | 32,412,379    | 6,678,994       | 1,724,149  | 1,942,603  | 3,215,286   |   |
| 2022          | 17,928,306                             | 52,611,331    | 32,437,114         | 299,388    | 32,736,502    | 6,745,784       | 1,741,391  | 1,962,029  | 3,247,439   |   |
| 2023          | 18,107,589                             | 53,137,445    | 32,761,485         | 302,382    | 33,063,867    | 6,813,242       | 1,758,805  | 1,981,649  | 3,279,913   |   |
| 2024          | 18,288,665                             | 53,668,820    | 33,089,100         | 305,406    | 33,394,506    | 6,881,375       | 1,776,393  | 2,001,466  | 3,312,712   |   |
| 2025          | 18,471,551                             | 54,205,506    | 33,419,991         | 308,460    | 33,728,451    | 6,950,188       | 1,794,157  | 2,021,480  | 3,345,839   |   |
| 2026          | 18,656,267                             | 54,747,563    | 33,754,191         | 311,544    | 34,065,735    | 7,019,690       | 1,812,098  | 2,041,695  | 3,379,298   |   |
| 2027          | 18,842,830                             | 55,295,040    | 34,091,733         | 314,660    | 34,406,393    | 7,089,887       | 1,830,219  | 2,062,112  | 3,413,091   |   |
| 2028          | 19,031,258                             | 55,847,990    | 34,432,650         | 317,806    | 34,750,456    | 7,160,786       | 1,848,522  | 2,082,733  | 3,447,221   |   |
| 2029          | 19,221,570                             | 56,406,467    | 34,776,977         | 320,984    | 35,097,961    | 7,232,394       | 1,867,007  | 2,103,561  | 3,481,694   |   |
| 2030          | 19,413,786                             | 56,970,532    | 35,124,747         | 324,194    | 35,448,941    | 7,304,718       | 1,885,677  | 2,124,596  | 3,516,511   |   |
| 2031          | 19,607,924                             | 57,540,242    | 35,475,994         | 327,436    | 35,803,430    | 7,377,765       | 1,904,534  | 2,145,842  | 3,551,676   |   |
| 2032          | 19,804,003                             | 58,115,642    | 35,830,754         | 330,711    | 36,161,465    | 7,451,543       | 1,923,579  | 2,167,301  | 3,587,192   |   |
| 2033          | 20,002,043                             | 58,696,798    | 36,189,062         | 334,018    | 36,523,080    | 7,526,058       | 1,942,815  | 2,188,974  | 3,623,064   |   |
| 2034          | 20,202,064                             | 59,283,767    | 36,550,952         | 337,358    | 36,888,310    | 7,601,319       | 1,962,243  | 2,210,863  | 3,659,295   |   |
| 2035          | 20,404,084                             | 59,876,604    | 36,916,462         | 340,731    | 37,257,193    | 7,677,332       | 1,981,865  | 2,232,972  | 3,695,888   |   |
| TOTAL         | 715,366,620                            | 2,034,773,326 | 1,389,308,387      | 15,673,126 | 1,404,981,513 | 221,917,569     | 72,108,184 | 93,410,004 | 112,202,681 |   |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 6 of 9

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |            |             |             |             |               |                    |             |            |
|---------------|---------------------------------|------------|-------------|-------------|-------------|---------------|--------------------|-------------|------------|
|               | MOJAVE DIVISION (continued)     |            |             |             |             |               | SANTA ANA DIVISION |             |            |
|               | Reach 21                        | Reach 22A  | Reach 22B   | Reach 23    | Reach 24    | Subtotal      | Reach 25           | Reach 26A   | Reach 28G  |
|               | [47]                            | [48]       | [49]        | [50]        | [51]        | [52]          | [53]               | [54]        | [55]       |
| 1961          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1962          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1963          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1964          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1965          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1966          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1967          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1968          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1969          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1970          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1971          | 0                               | 0          | 0           | 0           | 0           | 0             | 0                  | 0           | 0          |
| 1972          | 75,768                          | 80,436     | 1,036,831   | 51,520      | 362,153     | 2,030,064     | 26                 | 578         | 109        |
| 1973          | 60,641                          | 66,539     | 1,283,816   | 65,475      | 353,262     | 2,323,148     | 20,541             | 679,328     | 136,352    |
| 1974          | 65,007                          | 77,667     | 1,477,946   | 96,340      | 334,302     | 2,375,962     | 24,380             | 799,400     | 155,262    |
| 1975          | 135,462                         | 77,825     | 1,630,554   | 111,141     | 419,450     | 2,794,186     | 29,337             | 885,021     | 110,729    |
| 1976          | 106,314                         | 131,007    | 1,598,071   | 107,787     | 304,638     | 2,902,124     | 51,356             | 1,103,139   | 138,575    |
| 1977          | 98,757                          | 86,279     | 1,882,080   | 71,228      | 48,359      | 2,800,647     | 62,584             | 1,412,740   | 127,543    |
| 1978          | 109,271                         | 71,763     | 2,211,965   | 72,179      | 637,401     | 3,731,410     | 67,186             | 1,159,950   | 166,919    |
| 1979          | 203,078                         | 121,586    | 2,104,832   | 76,960      | 202,566     | 3,571,387     | 84,462             | 1,235,189   | 142,586    |
| 1980          | 156,794                         | 117,274    | 2,670,387   | 147,009     | 688,605     | 4,870,700     | 72,651             | 1,532,535   | 158,340    |
| 1981          | 181,062                         | 119,602    | 3,030,407   | 134,895     | 47,750      | 5,032,502     | 35,662             | 1,575,444   | 160,053    |
| 1982          | 186,109                         | 125,429    | 3,248,883   | 299,712     | 623,755     | 6,176,507     | 26,852             | 1,822,250   | 205,350    |
| 1983          | 219,943                         | 140,523    | 3,899,769   | 223,626     | 384,292     | 6,472,986     | 19,017             | 1,663,599   | 244,720    |
| 1984          | 266,919                         | 146,866    | 4,783,997   | 59,337      | 1,104,149   | 7,935,729     | 11,319             | 2,325,661   | 240,496    |
| 1985          | 799,514                         | 125,780    | 5,330,501   | 261,135     | 811,346     | 8,941,007     | 17,764             | 2,707,662   | 451,600    |
| 1986          | 242,158                         | 178,847    | 6,190,812   | 156,053     | 515,945     | 9,001,390     | 31,012             | 2,768,728   | 439,048    |
| 1987          | 298,190                         | 236,263    | 5,731,239   | 151,796     | 732,607     | 10,146,593    | 19,362             | 2,847,390   | 278,094    |
| 1988          | 331,099                         | 149,876    | 6,910,472   | 253,833     | 970,052     | 11,403,401    | 36,576             | 3,087,873   | 271,868    |
| 1989          | 194,047                         | 138,825    | 5,963,386   | 349,544     | 1,242,144   | 9,932,830     | 30,881             | 3,190,809   | 230,953    |
| 1990          | 273,748                         | 49,174     | 6,905,442   | 436,785     | 1,891,053   | 11,755,736    | 25,518             | 3,330,913   | 437,812    |
| 1991          | 478,555                         | 231,223    | 7,488,366   | 263,723     | 1,561,051   | 13,662,067    | 32,172             | 3,847,589   | 843,388    |
| 1992          | 585,072                         | 168,251    | 7,076,997   | 317,042     | 622,116     | 12,038,418    | 55,819             | 4,043,878   | 281,864    |
| 1993          | 509,309                         | 207,818    | 7,765,751   | 359,632     | 1,708,915   | 15,078,017    | 72,464             | 5,638,325   | 382,195    |
| 1994          | 873,215                         | 241,679    | 7,691,548   | 1,220,795   | 1,245,936   | 15,839,195    | 105,373            | 5,139,991   | 617,136    |
| 1995          | 355,198                         | 179,930    | 6,994,639   | 842,041     | 746,371     | 15,369,990    | 96,781             | 4,357,648   | 1,308,828  |
| 1996          | 790,618                         | 136,397    | 8,590,347   | 889,842     | (78,782)    | 15,117,753    | 156,395            | 4,051,744   | 1,001,063  |
| 1997          | 640,177                         | 189,241    | 8,138,580   | 1,586,227   | 3,355,446   | 19,415,490    | 177,217            | 4,585,198   | 493,841    |
| 1998          | 297,621                         | 115,100    | 8,887,728   | 1,924,868   | 1,134,837   | 22,259,793    | 142,703            | 4,856,225   | 379,997    |
| 1999          | 1,395,062                       | 188,629    | 9,516,356   | 2,034,226   | 1,222,891   | 25,309,026    | 190,302            | 6,039,135   | 503,433    |
| 2000          | 967,602                         | 162,166    | 9,556,103   | 1,711,058   | 1,516,573   | 19,307,088    | 353,556            | 4,201,190   | 842,570    |
| 2001          | 1,073,766                       | 478,385    | 7,663,929   | 1,891,894   | 17,570      | 19,500,989    | 296,466            | 2,423,837   | 1,667,769  |
| 2002          | 1,156,711                       | 282,353    | 11,250,023  | 1,693,719   | 935,850     | 18,861,569    | 509,124            | 3,399,580   | 1,250,579  |
| 2003          | 470,229                         | 279,963    | 13,362,824  | 2,096,448   | (448,817)   | 21,513,080    | 368,569            | 3,734,728   | 546,222    |
| 2004          | 1,055,076                       | 412,817    | 10,521,892  | 2,128,941   | 1,093,259   | 20,781,339    | 427,841            | 5,444,207   | 1,239,624  |
| 2005          | 678,931                         | 353,226    | 7,631,576   | 2,415,938   | 2,247,415   | 20,103,400    | 452,766            | 5,618,987   | 1,520,387  |
| 2006          | 966,130                         | 761,184    | 10,128,229  | 1,935,142   | 607,261     | 24,335,969    | 341,883            | 5,175,790   | 651,139    |
| 2007          | 835,427                         | 663,829    | 10,088,036  | 2,983,930   | 688,771     | 26,481,844    | 273,241            | 8,089,661   | 843,490    |
| 2008          | 507,092                         | 719,590    | 14,759,592  | 2,445,001   | 1,052,780   | 25,302,105    | 368,544            | 6,646,631   | 835,369    |
| 2009          | 779,054                         | 544,665    | 12,289,156  | 3,487,947   | 1,540,196   | 25,265,990    | 548,312            | 7,201,039   | 643,883    |
| 2010          | 798,753                         | 711,463    | 12,904,348  | 3,288,540   | 2,936,201   | 30,112,336    | 660,583            | 6,601,503   | 500,609    |
| 2011          | 629,630                         | 587,995    | 13,553,877  | 4,127,547   | 3,355,011   | 31,167,399    | 477,176            | 5,585,096   | 902,680    |
| 2012          | 1,837,643                       | 677,716    | 13,821,944  | 2,903,551   | 4,958,168   | 35,280,004    | 285,088            | 6,394,216   | 1,755,812  |
| 2013          | 1,502,356                       | 565,424    | 15,514,570  | 3,773,469   | 4,016,625   | 37,956,359    | 491,569            | 8,435,841   | 915,000    |
| 2014          | 956,771                         | 1,565,751  | 19,265,164  | 4,137,985   | 3,443,577   | 41,354,286    | 480,755            | 10,671,667  | 1,377,716  |
| 2015          | 1,062,151                       | 595,903    | 19,324,468  | 4,670,566   | 3,741,846   | 43,640,685    | 545,101            | 9,981,374   | 1,571,151  |
| 2016          | 1,105,615                       | 618,656    | 20,147,471  | 4,886,371   | 3,871,848   | 43,107,740    | 570,182            | 10,441,008  | 1,641,826  |
| 2017          | 1,051,927                       | 936,038    | 19,774,824  | 4,610,624   | 3,722,615   | 43,127,913    | 537,333            | 10,468,330  | 1,545,533  |
| 2018          | 1,062,446                       | 945,398    | 19,972,573  | 4,656,730   | 3,759,841   | 43,559,192    | 542,706            | 10,573,013  | 1,560,989  |
| 2019          | 1,073,071                       | 954,852    | 20,172,298  | 4,703,297   | 3,797,439   | 43,994,784    | 548,134            | 10,678,743  | 1,576,599  |
| 2020          | 1,083,802                       | 964,401    | 20,374,021  | 4,750,330   | 3,835,414   | 44,434,733    | 553,615            | 10,785,531  | 1,592,365  |
| 2021          | 1,094,640                       | 974,045    | 20,577,762  | 4,797,834   | 3,873,768   | 44,879,081    | 559,151            | 10,893,386  | 1,608,288  |
| 2022          | 1,105,586                       | 983,785    | 20,783,539  | 4,845,812   | 3,912,505   | 45,327,870    | 564,743            | 11,002,320  | 1,624,371  |
| 2023          | 1,116,642                       | 993,623    | 20,991,375  | 4,894,270   | 3,951,630   | 45,781,149    | 570,390            | 11,112,343  | 1,640,615  |
| 2024          | 1,127,808                       | 1,003,559  | 21,201,288  | 4,943,213   | 3,991,147   | 46,238,961    | 576,094            | 11,223,466  | 1,657,021  |
| 2025          | 1,139,086                       | 1,013,595  | 21,413,301  | 4,992,645   | 4,031,058   | 46,701,349    | 581,855            | 11,335,701  | 1,673,591  |
| 2026          | 1,150,477                       | 1,023,731  | 21,627,434  | 5,042,571   | 4,071,369   | 47,168,363    | 587,673            | 11,449,058  | 1,690,327  |
| 2027          | 1,161,982                       | 1,033,968  | 21,843,708  | 5,092,997   | 4,112,082   | 47,640,046    | 593,550            | 11,563,549  | 1,707,230  |
| 2028          | 1,173,602                       | 1,044,308  | 22,062,146  | 5,143,927   | 4,153,203   | 48,116,448    | 599,486            | 11,679,184  | 1,724,303  |
| 2029          | 1,185,338                       | 1,054,751  | 22,282,767  | 5,195,366   | 4,194,735   | 48,597,613    | 605,480            | 11,795,976  | 1,741,546  |
| 2030          | 1,197,191                       | 1,065,298  | 22,505,595  | 5,247,320   | 4,236,683   | 49,083,589    | 611,535            | 11,913,936  | 1,758,961  |
| 2031          | 1,209,163                       | 1,075,951  | 22,730,651  | 5,299,793   | 4,279,049   | 49,574,424    | 617,651            | 12,033,075  | 1,776,551  |
| 2032          | 1,221,255                       | 1,086,711  | 22,957,957  | 5,352,791   | 4,321,840   | 50,070,169    | 623,827            | 12,153,406  | 1,794,316  |
| 2033          | 1,233,467                       | 1,097,578  | 23,187,537  | 5,406,319   | 4,365,058   | 50,570,870    | 630,065            | 12,274,940  | 1,812,259  |
| 2034          | 1,245,802                       | 1,108,554  | 23,419,412  | 5,460,382   | 4,408,709   | 51,076,579    | 636,366            | 12,397,689  | 1,830,382  |
| 2035          | 1,258,260                       | 1,119,639  | 23,653,606  | 5,514,986   | 4,452,796   | 51,587,344    | 642,730            | 12,521,666  | 1,848,686  |
| TOTAL         | 48,203,189                      | 33,360,700 | 773,356,698 | 159,094,006 | 136,237,685 | 1,649,890,716 | 20,328,851         | 404,589,609 | 60,777,913 |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 7 of 9

| Calendar Year | CALIFORNIA AQUEDUCT (continued) |             |             |  |          |            |           |           |            |   |
|---------------|---------------------------------|-------------|-------------|--|----------|------------|-----------|-----------|------------|---|
|               | SANTA ANA DIVISION (continued)  |             |             | SANTA ANA DIVISION - EAST BRANCH EXTENSION |          |            |           |           |            |   |
|               | Reach 28H                       | Reach 28J   | Subtotal    | Reach 1                                    | Reach 2A | Reach 2B   | Reach 2C  | Reach 2D  | Reach 3A   |   |
|               | [56]                            | [57]        | [58]        | [59]                                       | [60]     | [61]       | [62]      | [63]      | [64]       |   |
| 1961          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1962          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1963          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1964          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1965          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1966          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1967          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1968          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1969          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1970          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1971          | 0                               | 0           | 0           | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1972          | 30                              | 0           | 743         | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1973          | 79                              | 0           | 836,300     | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1974          | 34,693                          | 854,637     | 1,868,372   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1975          | 69,082                          | 723,814     | 1,817,983   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1976          | 100,400                         | 635,853     | 2,029,323   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1977          | 92,647                          | 825,880     | 2,521,394   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1978          | 68,363                          | 835,082     | 2,297,500   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1979          | 92,812                          | 265,525     | 1,820,574   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1980          | 129,897                         | 1,120,131   | 3,013,554   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1981          | 111,722                         | 333,550     | 2,216,431   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1982          | 135,463                         | 1,518,759   | 3,708,674   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1983          | 124,651                         | 412,806     | 2,464,793   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1984          | 190,924                         | 769,068     | 3,537,468   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1985          | 182,242                         | 871,492     | 4,230,760   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1986          | 256,526                         | 982,332     | 4,477,646   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1987          | 218,717                         | 1,118,529   | 4,482,092   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1988          | 200,811                         | 1,176,659   | 4,773,787   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1989          | 281,861                         | 1,130,035   | 4,864,539   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1990          | 308,144                         | 1,538,449   | 5,640,836   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1991          | 632,912                         | 1,630,321   | 6,986,382   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1992          | 5,636,464                       | 1,102,519   | 11,120,544  | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1993          | 570,563                         | 994,721     | 7,658,268   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1994          | 415,603                         | 1,022,412   | 7,300,515   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1995          | 704,154                         | 894,338     | 7,361,749   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1996          | 1,041,697                       | 1,316,493   | 7,567,392   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1997          | 949,188                         | 953,590     | 7,159,034   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1998          | 991,426                         | (67,444)    | 6,302,907   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 1999          | 1,970,921                       | 1,084,943   | 9,788,735   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 2000          | 1,003,213                       | 1,120,734   | 7,521,262   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 2001          | 810,651                         | 5,720,030   | 10,918,752  | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 2002          | 422,825                         | 2,237,335   | 7,819,442   | 0  | 0        | 0          | 0         | 0         | 0          | 0 |
| 2003          | 376,281                         | 1,284,633   | 6,310,434   | 1,022                                      | 84,351   | 375,153    | 2,329     | 0         | 627,038    |   |
| 2004          | 440,803                         | 3,574,302   | 11,126,777  | 10,740                                     | 40,841   | 509,089    | 2,340     | 0         | 276,019    |   |
| 2005          | 685,061                         | (1,896,912) | 6,380,288   | 9,849                                      | 15,079   | 526,273    | 4,153     | 0         | 496,547    |   |
| 2006          | 337,031                         | 5,219,057   | 11,724,900  | 9,948                                      | 10,190   | 532,526    | 9,248     | 44,735    | 394,360    |   |
| 2007          | 728,407                         | 3,324,554   | 13,259,352  | 26,756                                     | 9,770    | 633,628    | 5,011     | 101,668   | 602,789    |   |
| 2008          | 806,404                         | 4,637,283   | 13,294,231  | 75,282                                     | 34,251   | 817,827    | 1,293     | 180,257   | 1,286,397  |   |
| 2009          | 693,113                         | 2,763,458   | 11,849,806  | 77,413                                     | 17,652   | 961,959    | 889       | 180,036   | 951,411    |   |
| 2010          | 450,622                         | 3,625,659   | 11,838,975  | 52,183                                     | 3,454    | 777,383    | 15,404    | 210,312   | 1,184,558  |   |
| 2011          | 586,753                         | 4,885,657   | 12,437,362  | 20,761                                     | 5,360    | 672,497    | 4,301     | 90,923    | 993,202    |   |
| 2012          | 572,159                         | 4,170,551   | 13,177,826  | 6,700                                      | 16,238   | 740,372    | 16,215    | 134,147   | 1,437,484  |   |
| 2013          | 777,383                         | 2,454,784   | 13,074,578  | 1,090                                      | 5,794    | 594,386    | 189,763   | 190,482   | 1,446,122  |   |
| 2014          | 741,602                         | 2,938,061   | 16,209,801  | 10,779                                     | 9,631    | 758,710    | 81,462    | 158,149   | 1,470,651  |   |
| 2015          | 844,409                         | 3,151,800   | 16,093,835  | 12,340                                     | 11,003   | 869,551    | 86,802    | 194,732   | 1,697,685  |   |
| 2016          | 881,764                         | 3,220,832   | 16,755,612  | 12,901                                     | 11,506   | 908,664    | 91,540    | 197,612   | 1,764,217  |   |
| 2017          | 830,818                         | 3,134,601   | 16,516,615  | 12,127                                     | 10,821   | 854,098    | 87,467    | 185,333   | 1,660,626  |   |
| 2018          | 839,126                         | 3,165,947   | 16,681,781  | 12,248                                     | 10,929   | 862,639    | 88,342    | 187,186   | 1,677,232  |   |
| 2019          | 847,517                         | 3,197,606   | 16,848,599  | 12,371                                     | 11,039   | 871,266    | 89,225    | 189,058   | 1,694,004  |   |
| 2020          | 855,993                         | 3,229,582   | 17,017,086  | 12,495                                     | 11,149   | 879,978    | 90,117    | 190,949   | 1,710,944  |   |
| 2021          | 864,552                         | 3,261,878   | 17,187,255  | 12,619                                     | 11,261   | 888,778    | 91,019    | 192,858   | 1,728,054  |   |
| 2022          | 873,198                         | 3,294,497   | 17,359,129  | 12,746                                     | 11,373   | 897,666    | 91,929    | 194,787   | 1,745,334  |   |
| 2023          | 881,930                         | 3,327,442   | 17,532,720  | 12,873                                     | 11,487   | 906,643    | 92,848    | 196,735   | 1,762,788  |   |
| 2024          | 890,749                         | 3,360,716   | 17,708,046  | 13,002                                     | 11,602   | 915,709    | 93,776    | 198,702   | 1,780,416  |   |
| 2025          | 899,657                         | 3,394,323   | 17,885,127  | 13,132                                     | 11,718   | 924,866    | 94,714    | 200,689   | 1,798,220  |   |
| 2026          | 908,653                         | 3,428,267   | 18,063,978  | 13,263                                     | 11,835   | 934,115    | 95,661    | 202,696   | 1,816,202  |   |
| 2027          | 917,740                         | 3,462,549   | 18,244,618  | 13,396                                     | 11,953   | 943,456    | 96,618    | 204,723   | 1,834,364  |   |
| 2028          | 926,917                         | 3,497,175   | 18,427,065  | 13,530                                     | 12,073   | 952,891    | 97,584    | 206,770   | 1,852,708  |   |
| 2029          | 936,186                         | 3,532,146   | 18,611,334  | 13,665                                     | 12,194   | 962,419    | 98,560    | 208,838   | 1,871,235  |   |
| 2030          | 945,548                         | 3,567,468   | 18,797,448  | 13,802                                     | 12,315   | 972,044    | 99,546    | 210,926   | 1,889,947  |   |
| 2031          | 955,004                         | 3,603,143   | 18,985,424  | 13,940                                     | 12,439   | 981,764    | 100,541   | 213,035   | 1,908,847  |   |
| 2032          | 964,554                         | 3,639,174   | 19,175,277  | 14,079                                     | 12,563   | 991,582    | 101,546   | 215,166   | 1,927,935  |   |
| 2033          | 974,199                         | 3,675,566   | 19,367,029  | 14,220                                     | 12,689   | 1,001,498  | 102,562   | 217,317   | 1,947,214  |   |
| 2034          | 983,941                         | 3,712,321   | 19,560,699  | 14,362                                     | 12,816   | 1,011,513  | 103,588   | 219,491   | 1,966,687  |   |
| 2035          | 993,781                         | 3,749,445   | 19,756,308  | 14,506                                     | 12,944   | 1,021,628  | 104,623   | 221,686   | 1,986,353  |   |
| TOTAL         | 43,960,535                      | 141,710,159 | 671,367,067 | 580,140                                    | 500,320  | 27,452,571 | 2,331,014 | 5,539,998 | 49,187,590 |   |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 8 of 9

| Year  | CALIFORNIA AQUEDUCT (continued)                           |           |            |            |             |            |             |             |            |             |               |  |
|-------|---|-----------|------------|------------|-------------|------------|-------------|-------------|------------|-------------|---------------|--|
|       | SANTA ANA DIVISION - EAST BRANCH EXTENSION<br>(continued) |           |            |            | WEST BRANCH |            |             |             |            |             |               |  |
|       | Reach 3B  | Reach 4A  | Reach 4B   | Subtotal   | Reach 29A   | Reach 29F  | Reach 29G   | Reach 29H   | Reach 29J  | Reach 30    | Subtotal      |  |
|       | [65]  | [66]      | [67]       | [68]       | [69]        | [70]       | [71]        | [72]        | [73]       | [74]        | [75]          |  |
| 1961  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1962  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1963  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1964  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1965  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1966  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1967  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1968  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1969  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1970  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1971  | 0   | 0         | 0          | 0          | 0           | 0          | 0           | 0           | 0          | 0           | 0             |  |
| 1972  | 0   | 0         | 0          | 0          | 719,255     | 159,249    | 199,145     | 234,196     | 88,198     | 420,789     | 1,820,832     |  |
| 1973  | 0   | 0         | 0          | 0          | 779,949     | 339,363    | 122,664     | 264,850     | 119,743    | 621,431     | 2,248,000     |  |
| 1974  | 0   | 0         | 0          | 0          | 883,312     | 158,366    | 112,458     | 350,160     | (4,525)    | 723,949     | 2,223,720     |  |
| 1975  | 0   | 0         | 0          | 0          | 1,049,990   | 176,676    | 194,724     | 801,457     | 75,870     | 841,991     | 3,140,708     |  |
| 1976  | 0   | 0         | 0          | 0          | 1,220,429   | 215,588    | 202,591     | 624,614     | 98,268     | (650,944)   | 1,710,546     |  |
| 1977  | 0   | 0         | 0          | 0          | 1,268,813   | 116,939    | 218,129     | 684,679     | 184        | 634,581     | 2,923,325     |  |
| 1978  | 0   | 0         | 0          | 0          | 1,174,708   | 342,479    | 267,308     | 415,641     | 17,764     | 3,088,954   | 5,306,854     |  |
| 1979  | 0   | 0         | 0          | 0          | 1,366,942   | 285,575    | 284,188     | 972,584     | 29,850     | 958,068     | 3,897,207     |  |
| 1980  | 0   | 0         | 0          | 0          | 1,688,215   | 224,472    | 455,619     | 874,259     | 288,303    | 222,549     | 3,763,417     |  |
| 1981  | 0   | 0         | 0          | 0          | 1,783,405   | 123,264    | 615,047     | 2,305,110   | 8,794      | 1,093,897   | 5,929,517     |  |
| 1982  | 0   | 0         | 0          | 0          | 1,919,979   | 190,500    | 702,265     | 2,208,264   | 414,230    | 978,624     | 6,413,862     |  |
| 1983  | 0   | 0         | 0          | 0          | 2,739,814   | 149,333    | 888,475     | 745,939     | 579,882    | 3,698,681   | 8,802,124     |  |
| 1984  | 0   | 0         | 0          | 0          | 3,463,038   | 81,260     | 2,358,495   | 537,207     | 719,282    | 755,136     | 7,914,418     |  |
| 1985  | 0   | 0         | 0          | 0          | 3,866,946   | 295,836    | 3,047,591   | 975,729     | 614,735    | 1,753,355   | 10,554,192    |  |
| 1986  | 0   | 0         | 0          | 0          | 3,791,427   | 457,604    | 2,893,171   | 1,480,015   | 1,032,216  | 1,338,657   | 10,993,090    |  |
| 1987  | 0   | 0         | 0          | 0          | 3,423,494   | 213,106    | 2,933,342   | 944,604     | 459,398    | 1,406,519   | 9,380,463     |  |
| 1988  | 0   | 0         | 0          | 0          | 3,447,403   | 255,113    | 3,017,463   | 883,714     | 446,468    | 1,452,589   | 9,502,750     |  |
| 1989  | 0   | 0         | 0          | 0          | 4,025,641   | 405,583    | 2,738,143   | 1,398,165   | 865,738    | 1,505,029   | 10,938,299    |  |
| 1990  | 0   | 0         | 0          | 0          | 4,088,481   | 383,655    | 3,232,445   | 3,153,869   | 777,713    | 847,500     | 12,483,663    |  |
| 1991  | 0   | 0         | 0          | 0          | 3,862,056   | 304,143    | 3,550,063   | 639,527     | 763,037    | 1,191,090   | 10,309,916    |  |
| 1992  | 0   | 0         | 0          | 0          | 4,286,050   | 327,802    | 3,892,480   | 1,014,551   | 872,953    | 2,259,032   | 12,652,868    |  |
| 1993  | 0   | 0         | 0          | 0          | 3,969,075   | 343,304    | 4,515,385   | 1,670,952   | 852,208    | 1,157,876   | 12,508,800    |  |
| 1994  | 0   | 0         | 0          | 0          | 3,649,861   | 293,376    | 3,359,381   | 1,879,417   | 872,624    | 1,674,576   | 11,729,235    |  |
| 1995  | 0   | 0         | 0          | 0          | 4,137,046   | 883,315    | 4,750,275   | 1,588,080   | 754,904    | (421,879)   | 11,691,741    |  |
| 1996  | 0   | 0         | 0          | 0          | 4,511,858   | 966,044    | 3,593,671   | 4,208,195   | 877,111    | 1,574,098   | 15,730,977    |  |
| 1997  | 0   | 0         | 0          | 0          | 4,543,506   | 1,030,809  | 2,429,066   | 3,755,901   | 1,597,361  | 1,521,491   | 14,878,134    |  |
| 1998  | 0   | 0         | 0          | 0          | 4,871,761   | 464,376    | 3,473,405   | 2,398,630   | 1,996,114  | 1,291,185   | 14,495,471    |  |
| 1999  | 0   | 0         | 0          | 0          | 4,859,457   | 4,249,651  | 4,989,423   | 1,764,943   | 1,005,565  | 1,911,025   | 18,780,064    |  |
| 2000  | 0   | 0         | 0          | 0          | 5,444,691   | 774,398    | 4,265,267   | 2,284,579   | 170,222    | 1,536,126   | 14,475,283    |  |
| 2001  | 0   | 0         | 0          | 0          | 5,907,524   | 1,539,363  | 5,136,046   | 4,410,076   | 240,652    | (966,591)   | 16,267,071    |  |
| 2002  | 0   | 0         | 0          | 0          | 5,325,201   | 1,490,197  | 4,067,608   | 4,478,209   | (52,904)   | 3,472,130   | 18,780,441    |  |
| 2003  | 360   | 93,305    | 33,614     | 1,217,171  | 4,462,511   | 1,315,154  | 3,728,869   | 3,353,017   | (627,463)  | 955,435     | 13,187,523    |  |
| 2004  | 337   | 13,434    | 71,444     | 924,242    | 8,923,655   | 1,375,960  | 3,491,591   | 5,119,984   | (615,245)  | 1,511,921   | 19,807,866    |  |
| 2005  | 9,036   | 27,330    | 216,418    | 1,304,685  | 5,774,589   | 2,598,959  | 7,397,492   | (590,618)   | 2,650,320  | (1,238,200) | 16,592,542    |  |
| 2006  | 989   | 14,574    | 69,398     | 1,085,067  | 6,907,485   | 2,319,199  | 5,174,952   | 3,587,177   | (519,712)  | (4,215,336) | 13,253,764    |  |
| 2007  | 58,094  | 37,495    | 132,153    | 1,607,361  | 5,723,466   | 2,742,057  | 10,506,487  | 7,867,028   | 417,145    | 12,144,943  | 39,401,127    |  |
| 2008  | 90,794  | 74,751    | 221,882    | 2,782,734  | 8,326,282   | 861,429    | 16,323,195  | 7,497,346   | (29,172)   | 565,261     | 33,544,340    |  |
| 2009  | 24,066  | 136,419   | 215,359    | 2,565,203  | 7,858,507   | 904,257    | 8,704,442   | 5,634,621   | 302,033    | 2,909,688   | 26,313,548    |  |
| 2010  | 9,189   | 160,106   | 327,896    | 2,740,486  | 10,095,308  | 822,059    | 8,995,705   | 6,339,208   | 500,328    | 5,459,010   | 32,211,618    |  |
| 2011  | 10,638  | 72,917    | 515,538    | 2,386,139  | 6,963,100   | 956,926    | 9,692,691   | 8,073,915   | 105,572    | (149,849)   | 25,642,355    |  |
| 2012  | 27,237  | 20,007    | 186,224    | 2,584,624  | 7,589,175   | 3,022,249  | 9,555,983   | 6,633,661   | 174,660    | 7,081,649   | 34,057,377    |  |
| 2013  | 4,390   | 6,342     | 176,082    | 2,614,452  | 9,403,490   | 3,961,295  | 12,876,223  | 7,763,373   | 470,045    | 4,092,496   | 38,566,922    |  |
| 2014  | 16,122  | 37,451    | 332,032    | 2,874,987  | 9,768,946   | 1,721,962  | 9,935,652   | 5,737,348   | 283,145    | 4,444,500   | 31,891,553    |  |
| 2015  | 18,387  | 42,762    | 379,885    | 3,313,147  | 11,293,374  | 1,902,399  | 11,275,424  | 7,038,182   | 319,163    | 5,845,464   | 37,674,006    |  |
| 2016  | 19,229  | 44,718    | 396,689    | 3,447,076  | 10,740,014  | 1,971,742  | 11,791,425  | 7,310,403   | 333,952    | 5,747,306   | 37,894,842    |  |
| 2017  | 18,092  | 42,060    | 373,230    | 3,243,854  | 10,706,786  | 1,884,022  | 11,110,842  | 6,762,264   | 315,207    | 5,399,215   | 36,178,336    |  |
| 2018  | 18,273  | 42,481    | 376,963    | 3,276,293  | 10,813,854  | 1,902,862  | 11,221,951  | 6,829,887   | 318,359    | 5,453,207   | 36,540,120    |  |
| 2019  | 18,456  | 42,906    | 380,732    | 3,309,057  | 10,921,992  | 1,921,891  | 11,334,170  | 6,898,186   | 321,543    | 5,507,739   | 36,905,521    |  |
| 2020  | 18,640  | 43,335    | 384,540    | 3,342,147  | 11,031,212  | 1,941,109  | 11,447,512  | 6,967,167   | 324,758    | 5,562,816   | 37,274,574    |  |
| 2021  | 18,827  | 43,768    | 388,385    | 3,375,569  | 11,141,524  | 1,960,521  | 11,561,987  | 7,036,839   | 328,006    | 5,618,444   | 37,647,321    |  |
| 2022  | 19,015  | 44,206    | 392,269    | 3,409,325  | 11,252,939  | 1,980,126  | 11,677,607  | 7,107,208   | 331,286    | 5,674,629   | 38,023,795    |  |
| 2023  | 19,205  | 44,648    | 396,192    | 3,443,419  | 11,365,469  | 1,999,927  | 11,794,383  | 7,178,280   | 334,598    | 5,731,375   | 38,404,032    |  |
| 2024  | 19,397  | 45,094    | 400,153    | 3,477,851  | 11,479,124  | 2,019,926  | 11,912,327  | 7,250,062   | 337,944    | 5,788,689   | 38,788,072    |  |
| 2025  | 19,591  | 45,545    | 404,155    | 3,512,630  | 11,593,915  | 2,040,126  | 12,031,450  | 7,322,563   | 341,324    | 5,846,576   | 39,175,954    |  |
| 2026  | 19,787  | 46,001    | 408,197    | 3,547,757  | 11,709,854  | 2,060,527  | 12,151,765  | 7,395,789   | 344,737    | 5,905,041   | 39,567,713    |  |
| 2027  | 19,985  | 46,461    | 412,279    | 3,583,235  | 11,826,952  | 2,081,132  | 12,273,282  | 7,469,747   | 348,184    | 5,964,092   | 39,963,389    |  |
| 2028  | 20,185  | 46,926    | 416,401    | 3,619,068  | 11,945,222  | 2,101,943  | 12,396,015  | 7,544,444   | 351,666    | 6,023,733   | 40,363,023    |  |
| 2029  | 20,387  | 47,395    | 420,565    | 3,655,258  | 12,064,674  | 2,122,963  | 12,519,975  | 7,619,888   | 355,183    | 6,083,970   | 40,766,653    |  |
| 2030  | 20,591  | 47,869    | 424,771    | 3,691,811  | 12,185,321  | 2,144,192  | 12,645,175  | 7,696,087   | 358,735    | 6,144,810   | 41,174,320    |  |
| 2031  | 20,796  | 48,347    | 429,019    | 3,728,728  | 12,307,174  | 2,165,634  | 12,771,627  | 7,773,048   | 362,322    | 6,206,258   | 41,586,063    |  |
| 2032  | 21,004  | 48,831    | 433,309    | 3,766,015  | 12,430,246  | 2,187,291  | 12,899,343  | 7,850,779   | 365,945    | 6,268,320   | 42,001,924    |  |
| 2033  | 21,214  | 49,319    | 437,642    | 3,803,675  | 12,554,548  | 2,209,164  | 13,028,336  | 7,929,286   | 369,605    | 6,331,004   | 42,421,943    |  |
| 2034  | 21,427  | 49,812    | 442,018    | 3,841,714  | 12,680,094  | 2,231,255  | 13,158,620  | 8,008,579   | 373,301    | 6,394,314   | 42,846,163    |  |
| 2035  | 21,641  | 50,310    | 446,439    | 3,880,130  | 12,806,895  | 2,253,568  | 13,290,206  | 8,088,665   | 377,034    | 6,458,257   | 43,274,625    |  |
| TOTAL | 665,380   | 1,656,924 | 11,041,872 | 98,955,810 | 434,727,024 | 82,924,565 | 433,182,036 | 272,041,529 | 26,906,465 | 195,408,291 | 1,445,189,911 |  |

**TABLE B-11 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of Transportation Charge**

(in dollars)

Sheet 9 of 9

| Year         | CALIFORNIA AQUEDUCT (continued) |                    |                  |                  |                  |                    | GRAND<br>TOTAL        |  |
|--------------|---------------------------------|--------------------|------------------|------------------|------------------|--------------------|-----------------------|--|
|              | COASTAL BRANCH                  |                    |                  |                  |                  |                    |                       |  |
|              | Reach 31A (a)                   | Reach 33A          | Reach 33B        | Reach 34         | Reach 35         | Subtotal           |                       |  |
|              | [76]                            | [77]               | [78]             | [79]             | [80]             | [81]               | [82]                  |  |
|              |                                 |                    |                  |                  |                  |                    | [83]                  |  |
| 1961         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 0                     |  |
| 1962         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 42,918                |  |
| 1963         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 168,358               |  |
| 1964         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 184,729               |  |
| 1965         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 378,874               |  |
| 1966         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 408,397               |  |
| 1967         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 634,505               |  |
| 1968         | 0                               | 0                  | 0                | 0                | 0                | 0                  | 2,160,548             |  |
| 1969         | 509,728                         | 0                  | 0                | 0                | 0                | 509,728            | 3,324,718             |  |
| 1970         | 609,988                         | 0                  | 0                | 0                | 0                | 609,988            | 3,983,062             |  |
| 1971         | 699,052                         | 0                  | 0                | 0                | 0                | 699,052            | 5,614,013             |  |
| 1972         | 697,576                         | 0                  | 0                | 0                | 0                | 697,576            | 12,353,356            |  |
| 1973         | 641,626                         | 0                  | 0                | 0                | 0                | 641,626            | 14,590,688            |  |
| 1974         | 669,279                         | 0                  | 0                | 0                | 0                | 669,279            | 16,598,762            |  |
| 1975         | 806,429                         | 0                  | 0                | 0                | 0                | 806,429            | 19,569,999            |  |
| 1976         | 840,927                         | 0                  | 0                | 0                | 0                | 840,927            | 19,002,859            |  |
| 1977         | 872,169                         | 0                  | 0                | 0                | 0                | 872,169            | 23,267,885            |  |
| 1978         | 934,119                         | 0                  | 0                | 0                | 0                | 934,119            | 24,818,739            |  |
| 1979         | 871,688                         | 0                  | 0                | 0                | 0                | 871,688            | 23,421,881            |  |
| 1980         | 1,047,396                       | 4,790              | 0                | 30               | 75               | 1,052,291          | 30,105,348            |  |
| 1981         | 1,037,469                       | 4,790              | 0                | 30               | 75               | 1,042,364          | 33,884,524            |  |
| 1982         | 1,015,555                       | 4,790              | 0                | 30               | 75               | 1,020,450          | 39,515,188            |  |
| 1983         | 1,146,269                       | 4,957              | 0                | 30               | 77               | 1,151,333          | 54,543,263            |  |
| 1984         | 1,427,192                       | 5,051              | 0                | 31               | 78               | 1,432,352          | 63,947,633            |  |
| 1985         | 1,849,827                       | 5,051              | 0                | 31               | 78               | 1,854,987          | 69,700,009            |  |
| 1986         | 1,714,723                       | 5,051              | 0                | 31               | 78               | 1,719,883          | 73,437,761            |  |
| 1987         | 1,689,141                       | 4,324              | 0                | 26               | 67               | 1,693,558          | 71,443,424            |  |
| 1988         | 1,964,428                       | 4,509              | 0                | 28               | 70               | 1,969,035          | 72,349,117            |  |
| 1989         | 1,768,942                       | 4,509              | 0                | 28               | 70               | 1,773,549          | 73,894,076            |  |
| 1990         | 2,274,772                       | 0                  | 0                | 0                | 0                | 2,274,772          | 86,130,115            |  |
| 1991         | 2,187,841                       | 0                  | 0                | 0                | 0                | 2,187,841          | 86,877,284            |  |
| 1992         | 2,465,364                       | 0                  | 0                | 0                | 0                | 2,465,364          | 94,167,321            |  |
| 1993         | 2,811,441                       | 0                  | 0                | 0                | 0                | 2,811,441          | 100,019,568           |  |
| 1994         | 3,894,639                       | 0                  | 0                | 0                | 0                | 3,894,639          | 92,336,811            |  |
| 1995         | 3,481,049                       | 0                  | 0                | 0                | 0                | 3,481,049          | 98,887,435            |  |
| 1996         | 5,144,684                       | 0                  | 0                | 0                | 0                | 5,144,684          | 105,119,193           |  |
| 1997         | 2,523,741                       | (33)               | 0                | 0                | 0                | 2,523,708          | 107,647,058           |  |
| 1998         | 4,302,712                       | 1,878,365          | 1,386            | 160,400          | 88,026           | 6,430,889          | 120,649,996           |  |
| 1999         | 4,235,897                       | 1,957,943          | 16,646           | 184,325          | 87,373           | 6,482,183          | 126,770,225           |  |
| 2000         | 2,879,118                       | 2,533,780          | 20,786           | 253,538          | 109,328          | 5,796,549          | 121,867,778           |  |
| 2001         | 3,114,131                       | 2,233,156          | 14,426           | 151,374          | 57,878           | 5,570,965          | 135,955,778           |  |
| 2002         | 3,175,579                       | 2,686,500          | 49,511           | 189,458          | 81,857           | 6,182,904          | 124,890,074           |  |
| 2003         | 3,338,349                       | 2,780,275          | 44,211           | 200,986          | 85,015           | 6,448,835          | 126,274,357           |  |
| 2004         | 3,542,984                       | 2,673,103          | 69,895           | 240,426          | 109,830          | 6,636,238          | 144,682,516           |  |
| 2005         | 3,846,725                       | 2,979,779          | 120,379          | 292,354          | 137,878          | 7,377,114          | 122,684,331           |  |
| 2006         | 2,526,002                       | 3,233,307          | 110,280          | 203,484          | 112,691          | 6,185,763          | 128,379,155           |  |
| 2007         | 3,212,747                       | 3,005,385          | 128,889          | 63,429           | 56,252           | 6,466,703          | 159,658,757           |  |
| 2008         | 5,607,280                       | 4,307,740          | 158,215          | 76,328           | 60,810           | 10,210,373         | 180,927,635           |  |
| 2009         | 5,173,043                       | 3,737,342          | 126,090          | 59,314           | 47,087           | 9,142,876          | 160,703,535           |  |
| 2010         | 6,500,980                       | 6,454,120          | 203,619          | 79,459           | 66,234           | 13,304,412         | 163,661,768           |  |
| 2011         | 6,197,760                       | 5,815,917          | 146,747          | 64,927           | 52,594           | 12,277,945         | 174,124,045           |  |
| 2012         | 5,422,671                       | 6,552,275          | 90,737           | 43,073           | 37,988           | 12,156,744         | 196,066,546           |  |
| 2013         | 6,314,990                       | 8,882,668          | 99,814           | 48,204           | 39,466           | 15,385,143         | 234,580,624           |  |
| 2014         | 9,550,149                       | 8,211,855          | 0                | 0                | 0                | 17,762,004         | 241,626,114           |  |
| 2015         | 7,304,433                       | 8,108,032          | 0                | 0                | 0                | 15,412,465         | 251,653,697           |  |
| 2016         | 7,633,772                       | 8,475,349          | 0                | 0                | 0                | 16,109,121         | 249,352,608           |  |
| 2017         | 8,244,413                       | 8,347,730          | 0                | 0                | 0                | 16,592,143         | 250,019,581           |  |
| 2018         | 8,326,857                       | 8,431,207          | 0                | 0                | 0                | 16,758,064         | 252,519,777           |  |
| 2019         | 8,410,126                       | 8,515,519          | 0                | 0                | 0                | 16,925,645         | 255,044,980           |  |
| 2020         | 8,494,227                       | 8,600,674          | 0                | 0                | 0                | 17,094,901         | 257,595,427           |  |
| 2021         | 8,579,169                       | 8,686,681          | 0                | 0                | 0                | 17,265,850         | 260,171,382           |  |
| 2022         | 8,664,961                       | 8,773,548          | 0                | 0                | 0                | 17,438,509         | 262,773,096           |  |
| 2023         | 8,751,610                       | 8,861,283          | 0                | 0                | 0                | 17,612,893         | 265,400,825           |  |
| 2024         | 8,839,126                       | 8,949,896          | 0                | 0                | 0                | 17,789,022         | 268,054,833           |  |
| 2025         | 8,927,518                       | 9,039,395          | 0                | 0                | 0                | 17,966,913         | 270,735,380           |  |
| 2026         | 9,016,793                       | 9,129,789          | 0                | 0                | 0                | 18,146,582         | 273,442,735           |  |
| 2027         | 9,106,961                       | 9,221,087          | 0                | 0                | 0                | 18,328,048         | 276,177,164           |  |
| 2028         | 9,198,030                       | 9,313,298          | 0                | 0                | 0                | 18,511,328         | 278,938,937           |  |
| 2029         | 9,290,011                       | 9,406,431          | 0                | 0                | 0                | 18,696,442         | 281,728,322           |  |
| 2030         | 9,382,911                       | 9,500,495          | 0                | 0                | 0                | 18,883,406         | 284,545,608           |  |
| 2031         | 9,476,740                       | 9,595,500          | 0                | 0                | 0                | 19,072,240         | 287,391,066           |  |
| 2032         | 9,571,507                       | 9,691,455          | 0                | 0                | 0                | 19,262,962         | 290,264,974           |  |
| 2033         | 9,667,222                       | 9,788,370          | 0                | 0                | 0                | 19,455,592         | 293,167,624           |  |
| 2034         | 9,763,895                       | 9,886,253          | 0                | 0                | 0                | 19,650,148         | 296,099,301           |  |
| 2035         | 9,861,534                       | 9,985,116          | 0                | 0                | 0                | 19,846,650         | 299,060,295           |  |
| <b>TOTAL</b> | <b>313,049,987</b>              | <b>260,288,406</b> | <b>1,401,631</b> | <b>2,311,373</b> | <b>1,231,049</b> | <b>578,282,446</b> | <b>9,890,352,484</b>  |  |
|              |                                 |                    |                  |                  |                  |                    | <b>10,605,886,390</b> |  |

(a) Includes certain costs to be assigned directly to Kern County Water Agency. Refer to Appendix B text discussion of Table B-16A under "Project Water Charges."

## Tables B-12 through B-31

Note: Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

**TABLE B-12 Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge<sup>a</sup>**

(in dollars)

Sheet 1 of 4

| Calendar Year | NORTH BAY AQUEDUCT          |                                 |                                   |            | SOUTH BAY AQUEDUCT                       | CALIFORNIA AQUEDUCT |                          |                           |
|---------------|-----------------------------|---------------------------------|-----------------------------------|------------|--|---------------------|--------------------------|---------------------------|
|               | Reach 1                     | Reach 3A                        | Reach 3B                          | Total      | Reach 1                                  | Reach 1             | Reach 4                  | Reach 14A                 |
|               | Barker Slough Pumping Plant | Cordelia Pumping Plant (Solano) | Cordelia Pumping Plant (Napa) (b) |            | South Bay & Del Valle Pumping Plants (c) | Banks Pumping Plant | Dos Amigos Pumping Plant | Buena Vista Pumping Plant |
|               | [1]                         | [2]                             | [3]                               | [4]        | [5]                                      | [6]                 | [7]                      | [8]                       |
| 1962          | 0                           | 0                               | 0                                 | 0          | 36,970                                   | 0                   | 0                        | 0                         |
| 1963          | 0                           | 0                               | 0                                 | 0          | 57,711                                   | 0                   | 0                        | 0                         |
| 1964          | 0                           | 0                               | 0                                 | 0          | 74,134                                   | 0                   | 0                        | 0                         |
| 1965          | 0                           | 0                               | 0                                 | 0          | 142,609                                  | 0                   | 0                        | 0                         |
| 1966          | 0                           | 0                               | 0                                 | 0          | 192,605                                  | 0                   | 0                        | 0                         |
| 1967          | 0                           | 0                               | 0                                 | 0          | 223,117                                  | 13,881              | 0                        | 0                         |
| 1968          | 0                           | 0                               | 6,989                             | 6,989      | 336,671                                  | 452,630             | 202,947                  | 0                         |
| 1969          | 0                           | 0                               | 8,551                             | 8,551      | 257,579                                  | 293,741             | 135,425                  | 0                         |
| 1970          | 0                           | 0                               | 13,598                            | 13,598     | 396,358                                  | 346,215             | 211,197                  | 1                         |
| 1971          | 0                           | 0                               | 10,609                            | 10,609     | 381,662                                  | 574,015             | 225,188                  | 115,801                   |
| 1972          | 0                           | 0                               | 14,434                            | 14,434     | 598,702                                  | 933,292             | 502,196                  | 198,914                   |
| 1973          | 0                           | 0                               | 14,449                            | 14,449     | 493,490                                  | 688,030             | 381,232                  | 263,488                   |
| 1974          | 0                           | 0                               | 17,473                            | 17,473     | 569,575                                  | 783,562             | 447,772                  | 315,939                   |
| 1975          | 0                           | 0                               | 14,779                            | 14,779     | 349,758                                  | 1,341,019           | 518,816                  | 508,060                   |
| 1976          | 0                           | 0                               | 20,856                            | 20,856     | 571,361                                  | 1,638,453           | 641,115                  | 712,947                   |
| 1977          | 0                           | 0                               | 22,635                            | 22,635     | 512,996                                  | 1,013,307           | 284,828                  | 267,467                   |
| 1978          | 0                           | 0                               | 21,692                            | 21,692     | 586,355                                  | 2,339,502           | 607,042                  | 689,236                   |
| 1979          | 0                           | 0                               | 16,237                            | 16,237     | 605,136                                  | 3,554,256           | 1,008,564                | 776,016                   |
| 1980          | 0                           | 0                               | 19,945                            | 19,945     | 523,369                                  | 2,083,336           | 1,129,152                | 1,051,629                 |
| 1981          | 0                           | 0                               | 23,842                            | 23,842     | 567,692                                  | 3,952,931           | 1,939,189                | 1,336,867                 |
| 1982          | 0                           | 0                               | 12,157                            | 12,157     | 605,780                                  | 3,082,031           | 1,363,705                | 1,200,226                 |
| 1983          | 0                           | 0                               | 2,342                             | 2,342      | 82,222                                   | 1,001,612           | 396,086                  | 450,801                   |
| 1984          | 0                           | 0                               | 4,822                             | 4,822      | 271,543                                  | 1,856,959           | 976,773                  | 823,681                   |
| 1985          | 0                           | 0                               | 10,188                            | 10,188     | 451,020                                  | 3,186,029           | 1,621,418                | 1,409,980                 |
| 1986          | 0                           | 0                               | 15,501                            | 15,501     | 814,111                                  | 6,595,625           | 2,627,407                | 2,405,224                 |
| 1987          | 0                           | 0                               | 27,223                            | 27,223     | 888,558                                  | 5,740,403           | 2,518,308                | 2,231,491                 |
| 1988          | 17,813                      | 0                               | 24,020                            | 41,833     | 911,176                                  | 6,276,214           | 2,610,048                | 2,560,122                 |
| 1989          | 29,819                      | 43,846                          | 26,519                            | 100,184    | 1,163,619                                | 9,847,706           | 3,953,735                | 4,042,211                 |
| 1990          | 52,210                      | 67,109                          | 40,775                            | 160,094    | 1,834,626                                | 10,460,533          | 4,498,260                | 5,779,750                 |
| 1991          | 10,429                      | 10,118                          | 5,252                             | 25,799     | 420,688                                  | 1,882,952           | 491,071                  | 904,541                   |
| 1992          | 13,319                      | 13,070                          | 9,406                             | 35,795     | 339,021                                  | 3,129,419           | 1,147,502                | 1,221,282                 |
| 1993          | (11,941)                    | (8,753)                         | (5,392)                           | (26,086)   | (150,856)                                | 497,455             | 326,100                  | (108,089)                 |
| 1994          | 46,791                      | 39,624                          | 29,189                            | 115,604    | 801,374                                  | 5,677,009           | 2,305,603                | 2,523,572                 |
| 1995          | 20,014                      | 20,620                          | 11,791                            | 52,425     | 302,558                                  | 3,805,713           | 1,451,578                | 815,572                   |
| 1996          | 57,320                      | 47,288                          | 23,483                            | 128,091    | 718,807                                  | 8,192,821           | 4,009,531                | 2,493,264                 |
| 1997          | 67,416                      | 52,935                          | 21,955                            | 142,306    | 1,038,568                                | 6,900,694           | 2,845,506                | 2,589,077                 |
| 1998          | (11,427)                    | (10,141)                        | (4,879)                           | (26,447)   | (130,734)                                | 185,756             | (336,341)                | (263,072)                 |
| 1999          | 31,419                      | 25,288                          | 11,623                            | 68,330     | 408,566                                  | 6,753,244           | 2,307,304                | 1,581,950                 |
| 2000          | 72,614                      | 40,414                          | 14,327                            | 127,354    | 864,185                                  | 7,621,716           | 2,881,170                | 2,797,632                 |
| 2001          | 441,203                     | 250,132                         | 214,039                           | 905,375    | 4,065,497                                | 23,769,597          | 9,711,120                | 14,552,225                |
| 2002          | 234,268                     | 104,564                         | 61,470                            | 400,302    | 2,324,926                                | 17,025,395          | 6,894,112                | 8,423,370                 |
| 2003          | 214,102                     | 118,446                         | 97,810                            | 430,357    | 2,570,189                                | 21,155,445          | 8,877,641                | 10,398,364                |
| 2004          | 316,037                     | 138,880                         | 106,974                           | 561,891    | 2,548,576                                | 21,459,794          | 9,281,189                | 12,219,983                |
| 2005          | 347,967                     | 146,837                         | 148,291                           | 643,095    | 2,817,761                                | 28,116,884          | 12,374,398               | 11,432,856                |
| 2006          | 274,604                     | 110,822                         | 143,686                           | 529,111    | 2,680,206                                | 22,480,747          | 10,069,517               | 10,844,436                |
| 2007          | 600,868                     | 223,276                         | 253,867                           | 1,078,010  | 4,192,529                                | 24,800,952          | 10,693,597               | 15,881,499                |
| 2008          | 468,464                     | 183,126                         | 288,324                           | 939,913    | 3,173,501                                | 16,439,410          | 5,745,304                | 10,589,053                |
| 2009          | 285,268                     | 114,019                         | 177,538                           | 576,825    | 2,740,417                                | 9,924,377           | 4,491,006                | 7,578,621                 |
| 2010          | 287,994                     | 110,871                         | 214,425                           | 613,290    | 2,366,846                                | 24,445,718          | 9,404,394                | 10,549,772                |
| 2011          | 306,869                     | 114,447                         | 227,640                           | 648,955    | 3,403,216                                | 35,448,604          | 15,087,007               | 14,387,563                |
| 2012          | 311,681                     | 129,591                         | 193,906                           | 635,178    | 3,607,206                                | 27,899,590          | 12,203,834               | 13,992,727                |
| 2013          | 566,437                     | 219,196                         | 338,995                           | 1,124,628  | 5,692,958                                | 23,835,890          | 9,002,045                | 12,956,094                |
| 2014          | 645,063                     | 104,685                         | 425,979                           | 1,175,727  | 4,845,549                                | 14,580,101          | 5,209,255                | 10,215,723                |
| 2015          | 429,766                     | 227,195                         | 410,493                           | 1,067,454  | 5,517,887                                | 39,373,888          | 16,945,414               | 21,074,973                |
| 2016          | 422,225                     | 224,186                         | 403,281                           | 1,049,692  | 5,855,218                                | 39,386,861          | 16,908,522               | 21,076,305                |
| 2017          | 563,913                     | 302,861                         | 635,852                           | 1,502,626  | 5,992,112                                | 38,947,335          | 16,416,998               | 21,626,572                |
| 2018          | 563,913                     | 302,861                         | 635,852                           | 1,502,626  | 5,992,112                                | 32,071,966          | 17,440,731               | 23,489,541                |
| 2019          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 35,268,473          | 16,570,813               | 21,272,941                |
| 2020          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 34,990,903          | 16,924,158               | 21,911,612                |
| 2021          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 39,498,906          | 16,844,652               | 21,778,703                |
| 2022          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 36,648,116          | 16,945,918               | 21,974,013                |
| 2023          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 39,231,874          | 17,057,722               | 22,188,055                |
| 2024          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 34,416,092          | 16,841,621               | 21,808,355                |
| 2025          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 34,098,431          | 17,011,406               | 22,126,712                |
| 2026          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 34,514,998          | 16,749,433               | 21,659,942                |
| 2027          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 29,487,979          | 17,050,179               | 22,212,158                |
| 2028          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 40,254,239          | 16,833,626               | 21,826,353                |
| 2029          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 40,882,605          | 16,986,423               | 22,112,391                |
| 2030          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 28,869,055          | 16,774,032               | 21,736,569                |
| 2031          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 36,218,110          | 17,650,500               | 23,357,918                |
| 2032          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 29,901,082          | 16,338,202               | 20,983,312                |
| 2033          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 45,011,062          | 17,628,127               | 23,337,616                |
| 2034          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 32,474,916          | 16,443,536               | 21,191,046                |
| 2035          | 563,901                     | 305,418                         | 638,101                           | 1,507,420  | 5,708,931                                | 59,285,991          | 18,866,385               | 25,746,015                |
| TOTAL         | 17,262,755                  | 8,659,517                       | 16,332,528                        | 42,254,800 | 186,547,215                              | 1,204,917,444       | 532,502,242              | 670,208,949               |

(a) Excludes extra peaking costs assigned directly to contractors. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges."

(b) Costs for the period 1968 through 1987 are for an interim facility.

(c) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedures.

**TABLE B-12 Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge<sup>a</sup>**

(in dollars)

Sheet 2 of 4

| Calendar Year | CALIFORNIA AQUEDUCT (continued)          |                                     |                                      |                               |  |                                      |                                 |
|---------------|--|-------------------------------------|--------------------------------------|-------------------------------|--|--------------------------------------|---------------------------------|
|               | Reach 15A<br>Wheeler Ridge Pumping Plant | Reach 16A<br>Chrisman Pumping Plant | Reach 17E<br>Edmonston Pumping Plant | Reach 18A<br>Alamo Powerplant | Reach 22B<br>Pearblossom Pumping Plant | Reach 23<br>Mojave Siphon Powerplant | Reach 24<br>Silverwood Lake (d) |
|               | [9]                                      | [10]                                | [11]                                 | [12]                          | [13]                                   | [14]                                 | [15]                            |
| 1962          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1963          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1964          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1965          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1966          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1967          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1968          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1969          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1970          | 0  | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1971          | 2,564                                    | 0                                   | 0                                    | 0                             | 0                                      | 0                                    | 0                               |
| 1972          | 68,304                                   | 142,902                             | 542,625                              | 0                             | 3,468                                  | 0                                    | 0                               |
| 1973          | 236,623                                  | 387,198                             | 1,548,428                            | 0                             | 202,289                                | 0                                    | 0                               |
| 1974          | 324,966                                  | 564,464                             | 2,164,223                            | 0                             | 324,993                                | 0                                    | 0                               |
| 1975          | 552,952                                  | 1,095,331                           | 4,010,395                            | 0                             | 575,061                                | 0                                    | 0                               |
| 1976          | 713,875                                  | 1,506,985                           | 5,443,936                            | 0                             | 889,544                                | 0                                    | 0                               |
| 1977          | 303,107                                  | 657,108                             | 2,360,624                            | 0                             | 315,128                                | 0                                    | 0                               |
| 1978          | 616,104                                  | 1,132,296                           | 4,180,131                            | 0                             | 1,508,115                              | 0                                    | 0                               |
| 1979          | 749,188                                  | 1,526,850                           | 5,475,688                            | 0                             | 1,838,687                              | 0                                    | 0                               |
| 1980          | 1,047,495                                | 2,102,439                           | 7,028,235                            | 0                             | 1,762,063                              | 0                                    | 0                               |
| 1981          | 1,319,739                                | 2,838,773                           | 9,351,931                            | 0                             | 2,296,771                              | 0                                    | 0                               |
| 1982          | 1,213,660                                | 2,424,920                           | 8,352,207                            | 0                             | 1,498,620                              | 0                                    | 0                               |
| 1983          | 432,165                                  | 793,915                             | 2,375,225                            | 0                             | 397,766                                | 0                                    | 0                               |
| 1984          | 770,618                                  | 1,479,784                           | 4,585,198                            | 0                             | 624,213                                | 0                                    | 0                               |
| 1985          | 1,411,621                                | 2,812,461                           | 9,365,591                            | 0                             | 1,226,515                              | 0                                    | 0                               |
| 1986          | 2,432,322                                | 4,999,949                           | 16,956,023                           | (1,013,756)                   | 2,359,599                              | 0                                    | 0                               |
| 1987          | 2,213,047                                | 4,434,510                           | 14,612,448                           | (1,017,868)                   | 1,814,728                              | 0                                    | 243,983                         |
| 1988          | 2,557,952                                | 5,120,998                           | 16,801,811                           | (742,800)                     | 2,370,395                              | 0                                    | 37,927                          |
| 1989          | 4,061,396                                | 8,559,270                           | 28,732,499                           | (788,139)                     | 4,228,697                              | 0                                    | 50,884                          |
| 1990          | 6,013,924                                | 13,616,111                          | 48,319,508                           | (832,947)                     | 6,490,357                              | 0                                    | 187,259                         |
| 1991          | 1,032,050                                | 2,427,880                           | 8,647,065                            | (269,625)                     | 996,352                                | 0                                    | 0                               |
| 1992          | 1,274,895                                | 2,560,253                           | 8,575,989                            | (916,154)                     | 1,142,454                              | 0                                    | 317,172                         |
| 1993          | (86,676)                                 | (490,235)                           | (2,223,221)                          | (55,346)                      | (245,059)                              | 0                                    | (79,954)                        |
| 1994          | 2,537,943                                | 5,323,430                           | 18,470,003                           | (59,356)                      | 2,605,813                              | 0                                    | 0                               |
| 1995          | 725,389                                  | 1,435,098                           | 4,738,967                            | (1,187,312)                   | 972,086                                | 0                                    | 777,343                         |
| 1996          | 2,299,388                                | 4,875,010                           | 17,027,386                           | (2,788,262)                   | 2,647,473                              | (914,092)                            | 1,053,254                       |
| 1997          | 2,417,154                                | 5,424,334                           | 19,413,834                           | (2,488,338)                   | 3,037,087                              | (1,680,469)                          | 0                               |
| 1998          | (236,322)                                | (524,933)                           | (1,809,182)                          | (1,969,187)                   | (431,135)                              | (1,217,950)                          | (149,186)                       |
| 1999          | 1,288,328                                | 3,316,481                           | 12,854,526                           | (2,851,993)                   | 1,861,548                              | (2,533,429)                          | 71,918                          |
| 2000          | 2,864,458                                | 6,591,623                           | 23,781,921                           | (5,070,499)                   | 3,719,175                              | (4,371,978)                          | 0                               |
| 2001          | 14,906,925                               | 33,563,884                          | 123,983,040                          | (3,276,174)                   | 18,888,282                             | (3,621,886)                          | 929,424                         |
| 2002          | 8,731,681                                | 19,721,183                          | 72,470,283                           | (4,919,131)                   | 10,667,925                             | (5,247,076)                          | 95,264                          |
| 2003          | 10,819,647                               | 24,646,995                          | 90,690,783                           | (3,362,477)                   | 14,531,277                             | (6,610,346)                          | 232,125                         |
| 2004          | 12,829,748                               | 29,292,672                          | 107,692,928                          | (6,248,061)                   | 16,949,136                             | (7,691,613)                          | 0                               |
| 2005          | 11,693,005                               | 26,503,870                          | 94,317,312                           | (5,791,742)                   | 17,473,742                             | (6,359,950)                          | 0                               |
| 2006          | 11,012,925                               | 25,100,320                          | 84,425,736                           | (4,019,245)                   | 16,345,933                             | (6,342,354)                          | 0                               |
| 2007          | 16,403,750                               | 37,088,407                          | 127,077,809                          | (2,976,651)                   | 19,650,235                             | (5,872,118)                          | 0                               |
| 2008          | 11,638,471                               | 23,475,494                          | 81,278,636                           | (3,305,736)                   | 11,111,722                             | (3,203,162)                          | 322,444                         |
| 2009          | 8,034,033                                | 17,434,996                          | 66,241,269                           | (3,096,612)                   | 8,493,841                              | (2,226,065)                          | 2,011                           |
| 2010          | 10,717,440                               | 24,197,056                          | 88,472,102                           | (4,904,985)                   | 16,603,018                             | (5,529,305)                          | 0                               |
| 2011          | 14,427,939                               | 32,369,358                          | 113,472,660                          | (6,340,454)                   | 23,054,263                             | (7,675,700)                          | 494,540                         |
| 2012          | 14,015,729                               | 31,846,886                          | 111,768,539                          | (2,424,628)                   | 17,657,573                             | (8,836,129)                          | 0                               |
| 2013          | 13,190,281                               | 29,815,481                          | 104,990,757                          | (1,989,599)                   | 12,654,290                             | (4,750,469)                          | 0                               |
| 2014          | 10,438,133                               | 24,088,602                          | 87,523,818                           | (2,571,141)                   | 10,035,618                             | (3,099,375)                          | 0                               |
| 2015          | 21,584,392                               | 49,215,664                          | 176,884,869                          | (7,738,539)                   | 28,818,606                             | (10,534,873)                         | 0                               |
| 2016          | 21,585,740                               | 49,221,395                          | 176,921,828                          | (7,722,149)                   | 28,827,196                             | (10,478,264)                         | 0                               |
| 2017          | 22,042,711                               | 50,178,214                          | 184,191,329                          | (7,079,114)                   | 25,492,372                             | (9,185,441)                          | 0                               |
| 2018          | 24,064,351                               | 54,866,311                          | 201,640,300                          | (7,783,887)                   | 28,434,475                             | (10,282,161)                         | 0                               |
| 2019          | 21,936,505                               | 49,965,207                          | 183,247,084                          | (7,723,466)                   | 28,429,218                             | (10,229,370)                         | 0                               |
| 2020          | 22,628,269                               | 51,568,128                          | 189,209,051                          | (7,985,596)                   | 29,575,561                             | (10,663,983)                         | 0                               |
| 2021          | 22,484,152                               | 51,234,073                          | 187,966,107                          | (7,983,213)                   | 29,498,120                             | (10,634,452)                         | 0                               |
| 2022          | 22,695,958                               | 51,172,059                          | 189,793,042                          | (8,002,226)                   | 29,577,025                             | (10,664,542)                         | 0                               |
| 2023          | 22,928,270                               | 52,263,809                          | 191,797,984                          | (8,116,503)                   | 30,104,105                             | (10,865,782)                         | 0                               |
| 2024          | 22,516,315                               | 51,308,690                          | 188,243,638                          | (7,804,319)                   | 28,759,575                             | (10,353,257)                         | 0                               |
| 2025          | 22,861,645                               | 52,109,311                          | 191,222,786                          | (8,069,734)                   | 29,857,746                             | (10,771,670)                         | 0                               |
| 2026          | 22,355,517                               | 50,936,088                          | 186,857,591                          | (7,853,014)                   | 29,027,060                             | (10,455,006)                         | 0                               |
| 2027          | 22,954,394                               | 52,324,416                          | 192,023,325                          | (8,025,101)                   | 29,672,901                             | (10,701,117)                         | 0                               |
| 2028          | 22,535,843                               | 51,354,018                          | 188,412,214                          | (7,941,132)                   | 29,325,085                             | (10,568,497)                         | 0                               |
| 2029          | 22,846,075                               | 52,073,233                          | 191,088,347                          | (7,968,787)                   | 29,490,906                             | (10,631,701)                         | 0                               |
| 2030          | 22,438,566                               | 51,128,615                          | 187,573,714                          | (7,904,849)                   | 29,175,494                             | (10,511,515)                         | 0                               |
| 2031          | 24,201,515                               | 55,219,368                          | 202,806,728                          | (8,235,288)                   | 30,548,125                             | (11,035,632)                         | 0                               |
| 2032          | 21,624,009                               | 49,242,304                          | 180,561,019                          | (7,615,491)                   | 28,048,939                             | (10,083,452)                         | 0                               |
| 2033          | 24,179,209                               | 55,167,455                          | 202,612,742                          | (8,296,391)                   | 30,803,615                             | (11,133,498)                         | 0                               |
| 2034          | 21,848,460                               | 49,761,961                          | 182,492,366                          | (7,748,333)                   | 28,530,632                             | (10,266,253)                         | 0                               |
| 2035          | 26,821,118                               | 61,317,383                          | 225,574,766                          | (8,383,878)                   | 31,224,961                             | (11,295,110)                         | 0                               |
| TOTAL         | 689,150,951                              | 1,558,461,142                       | 5,657,210,518                        | (243,259,228)                 | 874,371,376                            | (309,128,042)                        | 4,586,408                       |

(a) Excludes extra peaking costs assigned directly to contractors. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges."

(d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and recovery plants (Table B-3) associated with net annual withdrawals from storage for Project Transportation Facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Charges" (withdrawals, as a positive value) conveyed through each plant, divided by "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

**TABLE B-12 Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge<sup>a</sup>**

(in dollars)

Sheet 3 of 4

| Calendar Year | CALIFORNIA AQUEDUCT (continued)      |   |   |   |                              |                                |                               |
|---------------|--------------------------------------|---|---|---|------------------------------|--------------------------------|-------------------------------|
|               | Reach 26A<br>Devil Canyon Powerplant | EBX Reach 2B<br>Greenspot Pumping Plant | EBX Reach 3A<br>Crafton Hills Pumping Plant | EBX Reach 4B<br>Cherry Valley Pumping Plant | Reach 28J<br>Lake Perris (d) | Reach 29A<br>Oso Pumping Plant | Reach 29G<br>Warne Powerplant |
|               | [16]                                 | [17]                                    | [18]  | [19]  | [20]                         | [21]                           | [22]                          |
| 1962          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1963          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1964          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1965          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1966          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1967          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1968          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1969          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1970          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1971          | 0                                    | 0                                       | 0   | 0   | 0                            | 0                              | 0                             |
| 1972          | (3,024)                              | 0                                       | 0   | 0   | 0                            | 79,315                         | 0                             |
| 1973          | (461,268)                            | 0                                       | 0   | 0   | 0                            | 122,787                        | 0                             |
| 1974          | (546,156)                            | 0                                       | 0   | 0   | 0                            | 157,511                        | 0                             |
| 1975          | (1,095,523)                          | 0                                       | 0   | 0   | 0                            | 314,636                        | 0                             |
| 1976          | (1,566,056)                          | 0                                       | 0   | 0   | 0                            | 326,967                        | 0                             |
| 1977          | (1,222,866)                          | 0                                       | 0   | 0   | 0                            | 75,335                         | 0                             |
| 1978          | (3,085,094)                          | 0                                       | 0   | 0   | 0                            | 89,383                         | 0                             |
| 1979          | (3,466,481)                          | 0                                       | 0   | 0   | 0                            | 102,584                        | 0                             |
| 1980          | (3,318,152)                          | 0                                       | 0   | 0   | 0                            | 236,768                        | 0                             |
| 1981          | (3,842,971)                          | 0                                       | 0   | 0   | 0                            | 444,280                        | 0                             |
| 1982          | (2,736,072)                          | 0                                       | 0   | 0   | 0                            | 539,245                        | (783,626)                     |
| 1983          | (5,478,830)                          | 0                                       | 0   | 0   | 0                            | 214,069                        | (1,488,439)                   |
| 1984          | (7,350,989)                          | 0                                       | 0   | 0   | 0                            | 484,239                        | (4,088,209)                   |
| 1985          | (10,748,103)                         | 0                                       | 0   | 0   | 0                            | 874,069                        | (5,930,176)                   |
| 1986          | (11,484,996)                         | 0                                       | 0   | 0   | 0                            | 1,269,590                      | (5,579,301)                   |
| 1987          | (10,814,483)                         | 0                                       | 0   | 0   | 53,242                       | 1,323,472                      | (6,292,822)                   |
| 1988          | (14,495,967)                         | 0                                       | 0   | 0   | 0                            | 1,421,372                      | (6,994,568)                   |
| 1989          | (18,688,631)                         | 0                                       | 0   | 0   | 0                            | 2,046,005                      | (8,368,716)                   |
| 1990          | (20,911,839)                         | 0                                       | 0   | 0   | 147,163                      | 2,857,442                      | (11,011,193)                  |
| 1991          | (4,884,013)                          | 0                                       | 0   | 0   | 0                            | 535,456                        | (3,604,791)                   |
| 1992          | (9,513,281)                          | 0                                       | 0   | 0   | (61,233)                     | 686,984                        | (5,272,726)                   |
| 1993          | (7,502,549)                          | 0                                       | 0   | 0   | 0                            | 51,327                         | (3,380,473)                   |
| 1994          | (11,815,745)                         | 0                                       | 0   | 0   | 80,824                       | 1,210,469                      | (5,835,219)                   |
| 1995          | (9,742,248)                          | 0                                       | 0   | 0   | 0                            | 151,109                        | (1,179,155)                   |
| 1996          | (12,358,465)                         | 0                                       | 0   | 0   | 0                            | 895,929                        | (4,248,531)                   |
| 1997          | (13,293,791)                         | 0                                       | 0   | 0   | 111,776                      | 897,657                        | (4,797,589)                   |
| 1998          | (10,108,555)                         | 0                                       | 0   | 0   | 0                            | (27,767)                       | (746,113)                     |
| 1999          | (14,952,833)                         | 0                                       | 0   | 0   | (44,587)                     | 655,690                        | (5,341,364)                   |
| 2000          | (25,522,757)                         | 0                                       | 0   | 0   | (125,537)                    | 1,154,161                      | (9,464,490)                   |
| 2001          | (19,510,278)                         | 0                                       | 0   | 0   | 0                            | 6,139,290                      | (7,614,510)                   |
| 2002          | (24,676,763)                         | 0                                       | 0   | 0   | 0                            | 3,806,290                      | (10,286,903)                  |
| 2003          | (27,490,216)                         | 0                                       | 0   | 0   | 1,150,417                    | 4,339,466                      | (9,899,070)                   |
| 2004          | (31,246,167)                         | 78,351                                  | 68,735                                      | 7,271                                       | 0                            | 5,393,913                      | (11,835,098)                  |
| 2005          | (28,682,474)                         | 69,550                                  | 48,964                                      | 2,568                                       | 5,125,447                    | 3,413,375                      | (6,683,632)                   |
| 2006          | (34,389,659)                         | 139,168                                 | 152,477                                     | 18,724                                      | 0                            | 2,619,701                      | (6,870,988)                   |
| 2007          | (28,529,045)                         | 270,007                                 | 265,495                                     | 14,439                                      | 591,012                      | 6,266,462                      | (9,522,236)                   |
| 2008          | (16,493,544)                         | 271,495                                 | 347,089                                     | 10,854                                      | 0                            | 4,617,331                      | (7,184,125)                   |
| 2009          | (13,474,182)                         | 352,008                                 | 370,086                                     | 9,783                                       | 406,044                      | 4,040,385                      | (6,578,745)                   |
| 2010          | (24,427,811)                         | 330,097                                 | 435,098                                     | 22,485                                      | 0                            | 3,271,697                      | (5,697,650)                   |
| 2011          | (31,980,782)                         | 389,197                                 | 504,647                                     | 36,135                                      | 0                            | 3,274,317                      | (5,505,320)                   |
| 2012          | (23,571,258)                         | 480,981                                 | 570,016                                     | 64,199                                      | 238,013                      | 5,294,662                      | (8,230,796)                   |
| 2013          | (14,097,814)                         | 513,831                                 | 601,249                                     | 71,350                                      | 0                            | 6,762,464                      | (8,740,718)                   |
| 2014          | (7,028,870)                          | 554,180                                 | 691,611                                     | 82,382                                      | 0                            | 5,931,626                      | (5,353,205)                   |
| 2015          | (24,159,877)                         | 457,515                                 | 570,974                                     | 75,040                                      | 0                            | 7,878,653                      | (8,185,842)                   |
| 2016          | (24,019,191)                         | 459,074                                 | 572,920                                     | 107,371                                     | 0                            | 7,845,604                      | (8,138,229)                   |
| 2017          | (21,682,085)                         | 502,519                                 | 627,139                                     | 125,251                                     | 0                            | 9,537,781                      | (9,062,538)                   |
| 2018          | (22,582,821)                         | 502,519                                 | 627,139                                     | 129,236                                     | 0                            | 10,376,624                     | (9,861,751)                   |
| 2019          | (23,766,982)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 7,970,353                      | (8,046,603)                   |
| 2020          | (24,810,846)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,186,415                      | (8,239,188)                   |
| 2021          | (24,291,259)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,076,291                      | (8,126,882)                   |
| 2022          | (23,873,406)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,253,670                      | (8,332,642)                   |
| 2023          | (24,535,037)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,269,691                      | (8,346,832)                   |
| 2024          | (24,259,322)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,422,763                      | (8,503,937)                   |
| 2025          | (24,142,006)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,304,095                      | (8,353,781)                   |
| 2026          | (24,394,945)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,142,506                      | (8,192,139)                   |
| 2027          | (24,257,132)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,474,585                      | (8,527,097)                   |
| 2028          | (24,441,453)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,199,328                      | (8,274,886)                   |
| 2029          | (24,192,328)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,441,812                      | (8,520,954)                   |
| 2030          | (24,270,579)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 8,164,730                      | (8,240,116)                   |
| 2031          | (24,339,155)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 9,407,015                      | (9,464,642)                   |
| 2032          | (23,727,594)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 7,823,842                      | (7,868,959)                   |
| 2033          | (25,005,306)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 9,257,731                      | (9,345,879)                   |
| 2034          | (23,646,811)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 7,850,547                      | (7,899,949)                   |
| 2035          | (25,263,379)                         | 502,519                                 | 627,139                                     | 120,769                                     | 0                            | 12,472,176                     | (12,574,893)                  |
| <b>TOTAL</b>  | <b>(1,072,182,115)</b>               | <b>13,913,317</b>                       | <b>17,115,003</b>                           | <b>2,820,161</b>                            | <b>7,672,580</b>             | <b>265,717,275</b>             | <b>(386,518,256)</b>          |

(a) Excludes extra peaking costs assigned directly to contractors. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges."

(d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and recovery plants (Table B-3) associated with net annual withdrawals from storage for Project Transportation Facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, divided by "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

**TABLE B-12 Variable OMP&R Costs to be Reimbursed through Variable OMP&R Component of Transportation Charge<sup>a</sup>**

(in dollars)

Sheet 4 of 4

| Calendar<br>Year | CALIFORNIA AQUEDUCT (continued)  |                                    |                                 |   |   |                      | GRAND<br>TOTAL       |
|------------------|----------------------------------|------------------------------------|---------------------------------|---|---|----------------------|----------------------|
|                  | Reach 29H<br>Pyramid<br>Lake (d) | Reach 29J<br>Castaic<br>Powerplant | Reach 30<br>Castaic<br>Lake (d) | Reach 31A<br>Las Perillas<br>& Badger Hill<br>Pumping<br>Plants | Reach 33A<br>Devil's Den,<br>Bluestone &<br>Polonio<br>Pumping Plants | Total                |                      |
|                  | [23]                             | [24]                               | [25]                            | [26]  | [27]  | [28]                 | [29]                 |
| 1962             | 0                                | 0                                  | 0                               | 0   | 0   | 0                    | 36,970               |
| 1963             | 0                                | 0                                  | 0                               | 0   | 0   | 0                    | 57,711               |
| 1964             | 0                                | 0                                  | 0                               | 0   | 0   | 0                    | 74,134               |
| 1965             | 0                                | 0                                  | 0                               | 0   | 0   | 0                    | 142,609              |
| 1966             | 0                                | 0                                  | 0                               | 0   | 0   | 0                    | 192,605              |
| 1967             | 0                                | 0                                  | 0                               | 0   | 0   | 13,881               | 236,998              |
| 1968             | 0                                | 0                                  | 0                               | 118,676   | 0   | 774,253              | 1,117,913            |
| 1969             | 0                                | 0                                  | 0                               | 78,350  | 0   | 507,516              | 773,646              |
| 1970             | 0                                | 0                                  | 0                               | 136,429   | 0   | 693,842              | 1,103,798            |
| 1971             | 0                                | 0                                  | 0                               | 166,296   | 0   | 1,083,864            | 1,476,135            |
| 1972             | 0                                | (211,144)                          | 0                               | 237,638   | 0   | 2,494,486            | 3,107,622            |
| 1973             | 0                                | (1,057,564)                        | 0                               | 120,913   | 0   | 2,432,136            | 2,940,075            |
| 1974             | 0                                | (1,547,884)                        | 0                               | 118,582   | 0   | 3,107,972            | 3,691,020            |
| 1975             | 0                                | (2,455,461)                        | 0                               | 94,848  | 0   | 5,460,134            | 5,824,671            |
| 1976             | 0                                | (2,827,557)                        | 0                               | 141,260   | 0   | 7,621,469            | 8,213,686            |
| 1977             | 0                                | (3,734,462)                        | 0                               | 71,311  | 0   | 390,887              | 926,518              |
| 1978             | 0                                | (1,542,479)                        | 0                               | 179,925   | 0   | 6,714,161            | 7,322,208            |
| 1979             | 0                                | (2,773,323)                        | 0                               | 192,126   | 0   | 8,984,155            | 9,605,528            |
| 1980             | 0                                | (3,408,863)                        | 0                               | 168,458   | 0   | 9,882,560            | 10,425,874           |
| 1981             | 0                                | (2,834,322)                        | 0                               | 169,177   | 0   | 16,972,365           | 17,563,899           |
| 1982             | 0                                | (3,463,971)                        | 0                               | 168,390   | 0   | 12,859,335           | 13,477,272           |
| 1983             | 0                                | (6,649,626)                        | 0                               | 17,920  | 0   | (7,537,336)          | (7,452,772)          |
| 1984             | 0                                | (4,710,802)                        | 0                               | 112,679   | 0   | (4,435,856)          | (4,159,491)          |
| 1985             | 0                                | (15,698,638)                       | 0                               | 146,843   | 0   | (10,322,390)         | (9,861,182)          |
| 1986             | 0                                | (11,072,448)                       | 0                               | 297,886   | 0   | 10,793,124           | 11,622,736           |
| 1987             | 80,822                           | (11,557,616)                       | (43,085)                        | 245,082   | 0   | 5,785,662            | 6,701,444            |
| 1988             | 54,038                           | (12,295,001)                       | (210,845)                       | 214,519   | 0   | 5,286,197            | 6,239,206            |
| 1989             | 84,370                           | (14,812,039)                       | 89,852                          | 282,180   | 0   | 23,321,280           | 24,585,082           |
| 1990             | 0                                | (20,116,741)                       | 245,034                         | 416,832   | 0   | 46,159,454           | 48,154,174           |
| 1991             | 432,382                          | (6,579,194)                        | 0                               | 3,610   | 0   | 2,015,735            | 2,462,222            |
| 1992             | 29,879                           | (9,167,653)                        | (1,141,229)                     | 101,665   | 0   | (5,884,783)          | (5,509,967)          |
| 1993             | (675,438)                        | (7,895,978)                        | (2,751,590)                     | (111,306)   | 0   | (24,731,032)         | (24,907,974)         |
| 1994             | 0                                | (10,565,940)                       | (81,262)                        | 206,086   | 0   | 12,583,232           | 13,500,210           |
| 1995             | 544,099                          | (4,049,615)                        | 0                               | 243,434   | 0   | (497,940)            | (142,957)            |
| 1996             | 0                                | (8,457,232)                        | 0                               | 296,170   | 0   | 15,023,644           | 15,870,542           |
| 1997             | 0                                | (8,727,328)                        | (897)                           | 298,483   | 208,816   | 13,156,005           | 14,336,879           |
| 1998             | (965,988)                        | (3,360,851)                        | (2,139,549)                     | (55,491)  | (92,902)  | (24,248,768)         | (24,405,949)         |
| 1999             | 0                                | (9,572,802)                        | 0                               | 160,203   | 228,670   | (4,317,144)          | (3,840,249)          |
| 2000             | 0                                | (17,958,033)                       | 0                               | 219,325   | 361,521   | (10,520,593)         | (9,529,053)          |
| 2001             | 999,629                          | (13,495,346)                       | 2,413,037                       | 1,082,131   | 2,162,821   | 205,583,212          | 210,554,084          |
| 2002             | 0                                | (18,455,025)                       | 0                               | 544,053   | 1,351,161   | 86,145,817           | 88,871,046           |
| 2003             | 833,695                          | (16,903,355)                       | 964,514                         | 637,237   | 1,525,933   | 126,538,075          | 129,538,621          |
| 2004             | 221,340                          | (21,110,644)                       | 682,258                         | 670,805   | 1,774,635   | 140,491,177          | 143,601,644          |
| 2005             | 4,739,141                        | (12,763,664)                       | 4,527,400                       | 840,691   | 1,703,422   | 162,101,163          | 165,562,019          |
| 2006             | 531,139                          | (11,822,176)                       | 6,106,188                       | 819,111   | 1,376,878   | 128,598,576          | 131,807,893          |
| 2007             | 0                                | (19,017,327)                       | 0                               | 1,284,958   | 2,278,744   | 196,649,987          | 201,920,526          |
| 2008             | 0                                | (14,961,833)                       | 1,326,040                       | 1,066,593   | 1,644,428   | 124,825,966          | 128,939,380          |
| 2009             | 402,825                          | (16,146,570)                       | 0                               | 764,606   | 1,329,373   | 88,354,088           | 91,671,330           |
| 2010             | 0                                | (10,738,810)                       | 0                               | 897,391   | 1,477,211   | 139,524,917          | 142,505,054          |
| 2011             | 0                                | (11,102,175)                       | 1,984,429                       | 1,105,042   | 2,120,879   | 195,552,151          | 199,604,323          |
| 2012             | 190,984                          | (15,133,885)                       | 0                               | 1,023,580   | 2,049,975   | 181,090,594          | 185,332,978          |
| 2013             | 81,696                           | (15,520,329)                       | 495,562                         | 1,441,573   | 2,152,042   | 173,465,676          | 180,283,261          |
| 2014             | 0                                | (8,955,797)                        | 0                               | 139,450   | 171,510   | 142,653,621          | 148,674,897          |
| 2015             | 0                                | (13,782,709)                       | 0                               | 1,587,095   | 4,879,239   | 304,944,482          | 311,529,823          |
| 2016             | 0                                | (13,685,793)                       | 0                               | 1,577,964   | 4,864,218   | 305,311,372          | 312,216,282          |
| 2017             | 0                                | (15,459,361)                       | 0                               | 818,859   | 5,360,220   | 313,398,761          | 320,893,499          |
| 2018             | 0                                | (16,846,284)                       | 0                               | 818,859   | 5,360,220   | 332,465,368          | 339,960,106          |
| 2019             | 0                                | (12,933,904)                       | 0                               | 808,917   | 5,201,927   | 309,221,540          | 316,437,891          |
| 2020             | 0                                | (13,292,329)                       | 0                               | 808,917   | 5,201,927   | 317,263,426          | 324,479,777          |
| 2021             | 0                                | (13,108,947)                       | 0                               | 808,917   | 5,201,927   | 320,497,522          | 327,713,873          |
| 2022             | 0                                | (13,402,833)                       | 0                               | 808,917   | 5,201,926   | 320,598,452          | 327,814,803          |
| 2023             | 0                                | (13,428,874)                       | 0                               | 808,917   | 5,201,926   | 325,809,752          | 333,026,103          |
| 2024             | 0                                | (13,682,571)                       | 0                               | 808,917   | 5,201,927   | 314,974,914          | 322,191,265          |
| 2025             | 0                                | (13,484,808)                       | 0                               | 808,917   | 5,201,927   | 320,031,404          | 327,247,755          |
| 2026             | 0                                | (13,216,195)                       | 0                               | 808,917   | 5,201,927   | 313,393,107          | 320,609,458          |
| 2027             | 0                                | (13,767,300)                       | 0                               | 808,917   | 5,201,927   | 316,183,461          | 323,399,812          |
| 2028             | 0                                | (13,309,749)                       | 0                               | 808,917   | 5,201,926   | 321,466,259          | 328,682,610          |
| 2029             | 0                                | (13,711,945)                       | 0                               | 808,917   | 5,201,926   | 326,157,347          | 333,373,698          |
| 2030             | 0                                | (13,251,458)                       | 0                               | 808,917   | 5,201,927   | 308,943,529          | 316,159,880          |
| 2031             | 0                                | (15,318,639)                       | 0                               | 808,917   | 5,201,927   | 338,277,194          | 345,493,545          |
| 2032             | 0                                | (12,685,410)                       | 0                               | 808,917   | 5,201,927   | 299,803,074          | 307,019,425          |
| 2033             | 0                                | (15,067,960)                       | 0                               | 808,917   | 5,201,926   | 346,409,793          | 353,626,144          |
| 2034             | 0                                | (12,728,677)                       | 0                               | 808,917   | 5,201,926   | 305,564,711          | 312,781,062          |
| 2035             | 0                                | (20,474,941)                       | 0                               | 808,917   | 5,201,926   | 390,577,864          | 397,794,215          |
| <b>TOTAL</b>     | <b>7,584,614</b>                 | <b>(711,972,190)</b>               | <b>12,465,859</b>               | <b>36,130,086</b>   | <b>132,721,765</b>  | <b>8,964,489,860</b> | <b>9,193,291,875</b> |

(a) Excludes extra peaking costs assigned directly to contractors. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges."

(d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and recovery plants (Table B-3) associated with net annual withdrawals from storage for Project Transportation Facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, divided by "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

**TABLE B-13 Capital and Operating Costs of Project Conservation Facilities to be Reimbursed through Delta Water Charge**

(in dollars)

| Calendar Year | Initial Project Conservation Facilities<br>(Portions of Upper Feather Lakes, Oroville-Thermalito and California Aqueduct Facilities) |                          |                      |  |                        | Planning and Pre-operating Costs (a,f) | Total                |  |  |
|---------------|--|--------------------------|----------------------|--|------------------------|--|----------------------|--|--|
|               | Capital Costs (a)  | Capital Cost Credits (b) | Operating Costs (c)  | Application of Oroville Power Revenues to: |                        |  |                      |  |  |
|               |  |                          |                      | Capital Costs (d)                          | Operating Costs (e)    |  |                      |  |  |
| 1952          | [1] 171,322  | [2] 0                    | [3] 0                | [4] 0                                      | [5] 0                  | [6] 0                                  | [7] 171,322          |  |  |
| 1953          | 312,190  | 0                        | 0                    | 0  | 0                      | 0                                      | 312,190              |  |  |
| 1954          | 308,624  | 0                        | 0                    | 0  | 0                      | 0                                      | 308,624              |  |  |
| 1955          | 194,645  | 0                        | 0                    | 0  | 0                      | 0                                      | 194,645              |  |  |
| 1956          | 1,357,077  | 0                        | 0                    | 0  | 0                      | 0                                      | 1,357,077            |  |  |
| 1957          | 6,210,709  | 0                        | 0                    | 0  | 0                      | 0                                      | 6,210,709            |  |  |
| 1958          | 9,510,916  | 0                        | 0                    | 0  | 0                      | 0                                      | 9,510,916            |  |  |
| 1959          | 11,390,586   | 0                        | 0                    | 0  | 0                      | 0                                      | 11,390,586           |  |  |
| 1960          | 14,463,274   | (4,850,000)              | 0                    | 0  | 0                      | 0                                      | 9,613,274            |  |  |
| 1961          | 18,729,965   | (431,527)                | 0                    | 0  | 0                      | 0                                      | 18,298,438           |  |  |
| 1962          | 9,099,967  | (479,200)                | 0                    | 0  | 0                      | 0                                      | 8,620,697            |  |  |
| 1963          | 73,098,107   | (478,745)                | (14,000)             | 0  | 0                      | 0                                      | 72,605,364           |  |  |
| 1964          | 62,929,003   | (751,330)                | (14,000)             | 0  | 0                      | 107,780                                | 61,971,453           |  |  |
| 1965          | 71,048,877   | (763,541)                | (14,000)             | 0  | 0                      | 551,850                                | 70,823,186           |  |  |
| 1966          | 125,376,541  | (748,649)                | (14,000)             | 0  | 0                      | 1,081,023                              | 125,694,915          |  |  |
| 1967          | 94,481,603   | (812,145)                | (13,446)             | 0  | 0                      | 1,189,212                              | 94,845,224           |  |  |
| 1968          | 39,986,145   | (431,574)                | 1,303,821            | (951,000)                                  | 0                      | 793,399                                | 40,700,791           |  |  |
| 1969          | 5,367,865  | (259,015)                | 2,890,772            | (11,007,000)                               | 0                      | 601,867                                | (2,405,511)          |  |  |
| 1970          | 4,208,411  | (203,733)                | 4,818,634            | (14,650,000)                               | (1,500,000)            | 516,659                                | (6,810,029)          |  |  |
| 1971          | 3,956,703  | (193,631)                | 6,026,480            | (14,650,000)                               | (1,500,000)            | 408,754                                | (5,951,694)          |  |  |
| 1972          | 4,662,255  | (196,361)                | 5,393,011            | (14,650,000)                               | (1,500,000)            | 287,374                                | (6,003,721)          |  |  |
| 1973          | 4,090,078  | (136,997)                | 6,135,774            | (14,650,000)                               | (1,500,000)            | 203,384                                | (5,857,761)          |  |  |
| 1974          | 6,852,718  | (137,503)                | 6,944,723            | (17,950,000)                               | (1,500,000)            | 201,907                                | (5,588,155)          |  |  |
| 1975          | 8,343,833  | (234,567)                | 7,697,390            | (14,650,000)                               | (1,500,000)            | 146,188                                | (197,156)            |  |  |
| 1976          | 6,189,618  | (204,944)                | 7,067,037            | (14,650,000)                               | (1,500,000)            | 205,234                                | (2,893,055)          |  |  |
| 1977          | 21,554,452   | (150,214)                | 10,547,977           | (14,650,000)                               | (1,500,000)            | 857,419                                | 16,659,634           |  |  |
| 1978          | 8,031,393  | (64,566)                 | 12,851,158           | (14,650,000)                               | (1,500,000)            | 2,131,286                              | 6,799,271            |  |  |
| 1979          | 9,751,861  | 0                        | 9,547,014            | (14,650,000)                               | (1,500,000)            | 2,131,884                              | 5,280,759            |  |  |
| 1980          | 11,345,574   | 0                        | 13,258,298           | (14,650,000)                               | (1,500,000)            | 3,638,851                              | 12,092,723           |  |  |
| 1981          | 11,921,267   | 0                        | 10,326,538           | (14,650,000)                               | (1,500,000)            | 4,597,474                              | 10,695,779           |  |  |
| 1982          | 17,479,059   | 0                        | 16,154,872           | (14,650,000)                               | (1,500,000)            | 4,594,682                              | 22,078,813           |  |  |
| 1983          | 12,763,378   | 0                        | 22,251,331           | (34,705,000)                               | (8,735,000)            | 3,751,993                              | (4,673,298)          |  |  |
| 1984          | 9,367,268  | 0                        | 22,700,224           | (14,650,000)                               | (10,348,000)           | 2,979,126                              | 10,048,618           |  |  |
| 1985          | 12,538,173   | 0                        | 23,462,283           | (14,650,000)                               | (8,198,000)            | 2,069,024                              | 15,221,480           |  |  |
| 1986          | 21,586,488   | 0                        | 26,479,379           | (14,650,000)                               | (9,107,000)            | 1,602,419                              | 25,911,286           |  |  |
| 1987          | 32,734,633   | 0                        | 23,479,839           | (14,650,000)                               | (9,451,000)            | 1,762,179                              | 33,875,651           |  |  |
| 1988          | 33,028,679   | 0                        | 25,832,491           | (14,650,000)                               | (8,677,000)            | 1,808,899                              | 37,343,069           |  |  |
| 1989          | 11,075,132   | 0                        | 28,442,946           | (14,650,000)                               | (8,102,000)            | 2,678,007                              | 19,444,085           |  |  |
| 1990          | 28,764,328   | 0                        | 37,430,776           | (14,650,000)                               | (8,498,000)            | 1,436,712                              | 44,483,816           |  |  |
| 1991          | 37,462,303   | 0                        | 76,586,450           | (14,650,000)                               | (9,487,000)            | 1,727,664                              | 91,639,417           |  |  |
| 1992          | 29,169,134   | 0                        | 32,280,229           | (14,650,000)                               | (8,526,000)            | 1,707,822                              | 39,981,185           |  |  |
| 1993          | 22,366,873   | 0                        | 36,884,103           | (14,650,000)                               | (8,768,000)            | 1,708,490                              | 37,541,465           |  |  |
| 1994          | 14,709,626   | 0                        | 41,193,693           | (14,650,000)                               | (7,494,000)            | 2,134,392                              | 35,903,711           |  |  |
| 1995          | 15,120,856   | 0                        | 46,162,374           | (14,650,000)                               | (4,976,393)            | 2,042,481                              | 43,698,773           |  |  |
| 1996          | 10,993,080   | 0                        | 50,885,567           | (14,650,000)                               | (5,503,289)            | 2,448,692                              | 44,174,050           |  |  |
| 1997          | 15,267,994   | 0                        | 51,788,497           | (14,650,000)                               | (5,740,515)            | 1,699,730                              | 48,365,706           |  |  |
| 1998          | 3,854,173  | 0                        | 54,726,203           | (14,650,000)                               | (8,155,000)            | 1,193,198                              | 36,968,664           |  |  |
| 1999          | 7,473,065  | 0                        | 56,216,447           | (14,650,000)                               | (9,198,000)            | 9,686                                  | 39,851,198           |  |  |
| 2000          | 10,099,709   | 0                        | 56,304,221           | (14,688,338)                               | (10,297,462)           | 13,491                                 | 41,431,802           |  |  |
| 2001          | 10,290,622   | 0                        | 76,237,844           | (16,223,803)                               | (14,328,462)           | 23,866                                 | 56,000,047           |  |  |
| 2002          | 19,500,201   | 0                        | 68,303,125           | (19,498,891)                               | (20,626,560)           | 24,426                                 | 47,502,301           |  |  |
| 2003          | 22,829,817   | 0                        | 77,917,430           | (20,605,664)                               | (29,982,068)           | 9,833                                  | 50,169,328           |  |  |
| 2004          | 20,899,549   | 0                        | 91,250,162           | (17,530,888)                               | (35,845,422)           | 7,548                                  | 58,781,149           |  |  |
| 2005          | 5,905,937  | 0                        | 104,058,996          | (15,354,462)                               | (22,004,805)           | 0                                      | 72,605,667           |  |  |
| 2006          | 10,832,536   | 0                        | 102,138,986          | (15,210,585)                               | (21,005,765)           | 0                                      | 76,755,172           |  |  |
| 2007          | 7,704,768  | 0                        | 87,535,610           | (14,734,855)                               | (16,750,447)           | 0                                      | 63,746,076           |  |  |
| 2008          | 6,113,795  | 0                        | 104,526,831          | (14,749,241)                               | (19,295,181)           | 0                                      | 76,596,204           |  |  |
| 2009          | 5,100,494  | 0                        | 117,055,965          | (15,938,585)                               | (20,877,805)           | 0                                      | 85,340,070           |  |  |
| 2010          | 4,381,817  | 0                        | 120,734,742          | (15,984,649)                               | (20,222,025)           | 0                                      | 88,909,685           |  |  |
| 2011          | 8,861,501  | 0                        | 126,569,359          | (15,984,568)                               | (19,207,013)           | 0                                      | 100,239,280          |  |  |
| 2012          | 17,803,657   | 0                        | 131,472,664          | (16,058,191)                               | (25,150,420)           | 0                                      | 108,067,610          |  |  |
| 2013          | 75,862,180   | 0                        | 151,681,150          | (16,060,171)                               | (31,558,249)           | 0                                      | 179,924,910          |  |  |
| 2014          | 80,966,669   | 0                        | 157,966,099          | (16,061,444)                               | (26,173,221)           | 0                                      | 196,698,103          |  |  |
| 2015          | 67,753,893   | 0                        | 163,630,591          | (16,061,110)                               | (27,351,016)           | 0                                      | 187,967,358          |  |  |
| 2016          | 26,497,347   | 0                        | 165,073,217          | (16,064,155)                               | (28,581,812)           | 0                                      | 146,924,597          |  |  |
| 2017          | 18,141,730   | 0                        | 164,103,693          | (16,065,318)                               | (27,642,370)           | 0                                      | 138,539,535          |  |  |
| 2018          | 14,890,295   | 0                        | 144,645,793          | (16,061,774)                               | (27,918,793)           | 0                                      | 115,555,521          |  |  |
| 2019          | 14,890,295   | 0                        | 155,086,890          | (16,060,769)                               | (28,197,981)           | 0                                      | 125,718,435          |  |  |
| 2020          | 13,441,295   | 0                        | 153,827,707          | (16,064,369)                               | (28,479,961)           | 0                                      | 122,724,672          |  |  |
| 2021          | 12,475,295   | 0                        | 160,028,732          | (16,067,795)                               | (28,764,761)           | 0                                      | 127,671,471          |  |  |
| 2022          | 11,509,295   | 0                        | 146,865,116          | (16,065,703)                               | (29,052,408)           | 0                                      | 113,256,300          |  |  |
| 2023          | 10,060,295   | 0                        | 151,854,679          | (16,068,793)                               | (29,342,932)           | 0                                      | 116,503,249          |  |  |
| 2024          | 400,295  | 0                        | 147,806,657          | (16,061,806)                               | (29,636,362)           | 0                                      | 102,508,984          |  |  |
| 2025          | 400,295  | 0                        | 145,482,674          | (16,069,224)                               | (29,932,725)           | 0                                      | 99,881,020           |  |  |
| 2026          | 400,295  | 0                        | 154,375,580          | (16,062,190)                               | (30,232,053)           | 0                                      | 108,481,632          |  |  |
| 2027          | 400,295  | 0                        | 149,408,261          | (16,059,803)                               | (30,534,373)           | 0                                      | 103,214,380          |  |  |
| 2028          | 400,295  | 0                        | 159,298,057          | (16,067,240)                               | (30,839,717)           | 0                                      | 112,791,395          |  |  |
| 2029          | 400,295  | 0                        | 157,764,725          | (16,064,688)                               | (31,148,114)           | 0                                      | 110,952,238          |  |  |
| 2030          | 400,295  | 0                        | 152,064,667          | (14,731,995)                               | (31,459,595)           | 0                                      | 106,273,372          |  |  |
| 2031          | 400,295  | 0                        | 156,598,226          | (14,733,966)                               | (31,774,191)           | 0                                      | 110,490,364          |  |  |
| 2032          | 400,295  | 0                        | 158,849,327          | (14,730,617)                               | (32,091,933)           | 0                                      | 112,427,072          |  |  |
| 2033          | 400,295  | 0                        | 165,500,086          | (14,732,267)                               | (32,412,852)           | 0                                      | 118,755,262          |  |  |
| 2034          | 400,295  | 0                        | 162,913,461          | (14,733,652)                               | (32,736,681)           | 0                                      | 115,843,123          |  |  |
| 2035          | 400,295  | 0                        | 167,934,193          | (14,729,780)                               | (33,064,351)           | 0                                      | 120,540,357          |  |  |
| <b>TOTAL</b>  | <b>1,482,016,353</b>   | <b>(11,528,320)</b>      | <b>5,634,562,393</b> | <b>(1,048,857,130)</b>                     | <b>(1,123,183,988)</b> | <b>57,085,905</b>                      | <b>4,990,095,212</b> |  |  |

(a) Reimbursed through the capital cost component of the Delta Water Charge.

(b) Negotiated settlements as to the magnitude of SWP planning costs from 1952 through 1978.

(c) Reimbursed through the minimum OMP&R component of the Delta Water Charge. Credits for Gianelli power generation are reflected in these net costs.

(d) Revenues credited through the capital cost component of the Delta Water Charge.

(e) Revenues credited through the minimum OMP&R component of the Delta Water Charge.

(f) Under amendments of Articles 22(e) and 22(g), planning and pre-operating costs of additional Project Conservation Facilities incurred through 2013 reflected in the Delta Water Charge.

## Tables B-14 through B-31

Note: Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

**TABLE B-14 Capital Costs of Transportation Facilities Allocated to Each Contractor**

(in dollars)

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                      |                    | SOUTH BAY AREA                |                               |                                   |                    | CENTRAL COASTAL AREA          |                             |                    |
|---------------|--------------------|----------------------|--------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|-------------------------------|-----------------------------|--------------------|
|               | Napa County FC&WCD | Solano County WA (a) | Total              | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total              | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total              |
|               | [1]                | [2]                  | [3]                | [4]                           | [5]                           | [6]                               | [7]                | [8]                           | [9]                         | [10]               |
| 1952          | 0                  | 0                    | 0                  | 83                            | 114                           | 410                               | 608                | 122                           | 224                         | 346                |
| 1953          | 0                  | 0                    | 0                  | 323                           | 479                           | 1,808                             | 2,610              | 336                           | 620                         | 956                |
| 1954          | 0                  | 0                    | 0                  | 819                           | 1,306                         | 5,150                             | 7,275              | 421                           | 777                         | 1,199              |
| 1955          | 0                  | 0                    | 0                  | 977                           | 1,570                         | 6,297                             | 8,844              | 211                           | 390                         | 601                |
| 1956          | 0                  | 0                    | 0                  | 8,844                         | 14,459                        | 63,816                            | 87,120             | 227                           | 418                         | 645                |
| 1957          | 15,199             | 11,436               | 26,634             | 21,564                        | 35,240                        | 649,596                           | 706,401            | 291                           | 536                         | 827                |
| 1958          | 33,420             | 16,591               | 50,011             | 67,764                        | 71,717                        | 733,414                           | 872,896            | 720                           | 1,328                       | 2,048              |
| 1959          | 20,697             | 6,591                | 27,288             | 154,255                       | 143,730                       | 493,050                           | 791,035            | 10,636                        | 69,139                      | 79,775             |
| 1960          | 9,097              | 8,830                | 17,927             | 296,492                       | 275,610                       | 1,018,661                         | 1,590,763          | 15,255                        | 99,794                      | 115,048            |
| 1961          | 6,950              | 7,445                | 14,395             | 853,506                       | 802,675                       | 1,914,709                         | 3,570,890          | 10,163                        | 36,681                      | 46,843             |
| 1962          | (194)              | (926)                | (1,120)            | 545,123                       | 615,141                       | 1,686,041                         | 2,846,306          | 17,281                        | 39,570                      | 56,851             |
| 1963          | 1,319              | 1,111                | 2,430              | 657,426                       | 1,281,271                     | 3,243,838                         | 5,182,534          | 68,821                        | 140,841                     | 209,662            |
| 1964          | 38,393             | 35,466               | 73,859             | 712,650                       | 1,747,783                     | 7,251,800                         | 9,712,233          | 138,614                       | 282,003                     | 420,617            |
| 1965          | 198,833            | 62,221               | 261,054            | 360,779                       | 606,025                       | 3,414,457                         | 4,381,262          | 250,706                       | 497,152                     | 747,859            |
| 1966          | 461,619            | 49,917               | 511,536            | 592,714                       | 592,598                       | 2,245,215                         | 3,430,528          | 587,951                       | 1,117,486                   | 1,705,437          |
| 1967          | 1,569,498          | 40,379               | 1,609,877          | 796,995                       | 803,951                       | 2,401,862                         | 4,002,808          | 936,412                       | 1,762,694                   | 2,699,106          |
| 1968          | 859,613            | 61,691               | 921,304            | 736,470                       | 696,075                       | 1,997,924                         | 3,430,469          | 351,131                       | 675,220                     | 1,026,351          |
| 1969          | 74,388             | 59,318               | 133,706            | 269,698                       | 293,275                       | 764,950                           | 1,327,923          | 76,966                        | 164,583                     | 241,550            |
| 1970          | 43,361             | 67,877               | 111,238            | 58,676                        | 61,200                        | 135,569                           | 255,445            | 47,891                        | 109,224                     | 157,115            |
| 1971          | 26,763             | 34,052               | 60,815             | 12,086                        | 18,227                        | 84,089                            | 114,402            | 28,638                        | 80,715                      | 109,353            |
| 1972          | 19,643             | 18,905               | 38,548             | 12,293                        | 12,763                        | 63,610                            | 88,666             | 19,289                        | 50,230                      | 69,519             |
| 1973          | 56,510             | 30,874               | 87,384             | 10,494                        | 12,136                        | 39,380                            | 62,010             | 23,010                        | 56,178                      | 79,189             |
| 1974          | 165,830            | 65,832               | 231,662            | 15,722                        | 24,402                        | 73,119                            | 113,243            | 25,037                        | 61,383                      | 86,420             |
| 1975          | 91,824             | 89,234               | 181,058            | 16,730                        | 15,806                        | 41,394                            | 73,930             | 14,740                        | 61,416                      | 76,156             |
| 1976          | 57,765             | 83,651               | 141,416            | 34,004                        | 34,663                        | 109,610                           | 178,277            | 33,638                        | 130,440                     | 164,078            |
| 1977          | 64,167             | 80,147               | 144,314            | 46,229                        | 45,115                        | 133,375                           | 224,720            | 108,324                       | 264,720                     | 373,044            |
| 1978          | 69,319             | 81,717               | 151,036            | 71,234                        | 66,008                        | 174,898                           | 312,140            | 21,415                        | 103,822                     | 125,237            |
| 1979          | 191,273            | 282,907              | 474,180            | 45,468                        | 42,943                        | 110,665                           | 199,077            | 22,941                        | 125,669                     | 148,610            |
| 1980          | 264,433            | 386,006              | 650,439            | 134,522                       | 124,352                       | 304,614                           | 563,488            | 103,258                       | 462,895                     | 566,153            |
| 1981          | 227,606            | 383,086              | 610,692            | (33,738)                      | (29,856)                      | (65,637)                          | (129,231)          | (15,416)                      | (135,240)                   | (150,656)          |
| 1982          | 549,164            | 870,611              | 1,419,775          | 7,876                         | 8,321                         | 27,065                            | 43,262             | 4,102                         | (58,882)                    | (54,780)           |
| 1983          | 1,254,900          | 1,433,061            | 2,687,961          | 138,413                       | 131,515                       | 339,246                           | 609,175            | 32,196                        | 110,287                     | 142,483            |
| 1984          | 2,547,878          | 2,750,040            | 5,297,918          | 152,992                       | 140,971                       | 351,921                           | 645,884            | 35,448                        | 107,723                     | 143,171            |
| 1985          | 7,143,123          | 6,443,613            | 13,586,736         | 19,776                        | 19,245                        | 53,491                            | 92,512             | 17,424                        | 78,896                      | 96,319             |
| 1986          | 10,565,937         | 16,926,630           | 27,492,567         | 32,034                        | 31,581                        | 88,070                            | 151,684            | 44,135                        | 306,452                     | 350,588            |
| 1987          | 7,979,832          | 12,599,507           | 20,579,339         | 50,153                        | 48,675                        | 138,959                           | 237,787            | 126,995                       | 1,342,116                   | 1,469,110          |
| 1988          | 2,312,909          | 4,343,513            | 6,656,422          | 116,181                       | 112,294                       | 302,461                           | 530,935            | 156,473                       | 1,479,545                   | 1,636,018          |
| 1989          | 1,224,538          | 1,553,352            | 2,777,890          | 108,320                       | 102,804                       | 260,092                           | 471,217            | 152,173                       | 1,210,940                   | 1,363,112          |
| 1990          | 443,002            | 824,055              | 1,267,057          | 224,283                       | 224,188                       | 625,213                           | 1,073,684          | 222,208                       | 1,559,457                   | 1,781,665          |
| 1991          | 99,848             | 89,269               | 189,117            | 413,426                       | 383,368                       | 946,246                           | 1,743,040          | 298,398                       | 2,184,088                   | 2,482,487          |
| 1992          | 57,045             | 62,083               | 119,128            | 182,231                       | 169,968                       | 442,055                           | 794,255            | 361,210                       | 3,504,755                   | 3,865,965          |
| 1993          | 122,423            | 128,634              | 251,057            | 129,344                       | 125,312                       | 342,416                           | 597,071            | 1,170,649                     | 11,997,953                  | 13,168,602         |
| 1994          | 71,274             | 83,270               | 154,544            | 46,042                        | 58,050                        | 229,649                           | 333,741            | 4,260,734                     | 46,401,596                  | 50,662,331         |
| 1995          | 30,605             | 29,271               | 59,876             | 97,808                        | 97,063                        | 257,484                           | 452,355            | 12,268,787                    | 155,255,850                 | 167,524,637        |
| 1996          | 20,275             | 19,069               | 39,344             | 49,854                        | 48,056                        | 127,493                           | 225,403            | 11,284,548                    | 145,409,410                 | 156,693,959        |
| 1997          | 20,039             | 107,784              | 127,823            | 82,598                        | 78,996                        | 209,517                           | 371,111            | 3,184,506                     | 38,158,718                  | 41,343,224         |
| 1998          | 17,423             | 21,572               | 38,995             | 27,302                        | 24,121                        | 63,057                            | 114,480            | 883,110                       | 10,563,359                  | 11,446,469         |
| 1999          | 67,602             | 106,355              | 173,957            | 74,165                        | 73,552                        | 208,296                           | 356,013            | 928,738                       | 9,596,058                   | 10,524,796         |
| 2000          | 16,252             | 37,932               | 54,185             | 27,445                        | 28,844                        | 80,346                            | 136,635            | 488,160                       | 5,529,102                   | 6,017,261          |
| 2001          | 6,598              | 13,750               | 20,347             | 140,394                       | 270,055                       | 1,856,845                         | 2,267,294          | 72,358                        | 539,206                     | 611,564            |
| 2002          | 19,917             | 45,940               | 65,857             | 805,478                       | 1,189,615                     | 5,876,842                         | 7,871,934          | 63,183                        | 376,338                     | 439,521            |
| 2003          | 54,235             | 20,712               | 74,947             | 1,156,874                     | 1,331,274                     | 4,619,175                         | 7,107,323          | (2,583)                       | 77,174                      | 74,591             |
| 2004          | 153,240            | 20,534               | 173,774            | 360,395                       | 346,064                       | 4,106,508                         | 4,812,967          | 8,906                         | 46,169                      | 55,074             |
| 2005          | 60,543             | 62,997               | 123,541            | 358,153                       | 339,995                       | 1,541,971                         | 2,240,119          | (10,551)                      | (177,303)                   | (187,854)          |
| 2006          | 887,961            | 20,258               | 908,219            | 712,393                       | 661,559                       | 1,591,946                         | 2,965,898          | 6,552                         | 61,580                      | 68,131             |
| 2007          | 3,237,280          | 43,244               | 3,280,524          | 716,892                       | 662,573                       | 1,590,087                         | 2,969,552          | 15,302                        | 82,398                      | 97,700             |
| 2008          | 7,903,072          | 61,968               | 7,965,040          | 1,318,425                     | 1,216,935                     | 2,912,928                         | 5,448,287          | 22,796                        | 88,980                      | 111,775            |
| 2009          | 1,197,373          | 20,419               | 1,217,792          | 2,755,752                     | 2,577,576                     | 6,147,431                         | 11,480,759         | 8,736                         | 74,428                      | 83,164             |
| 2010          | 397,066            | 4,083                | 401,149            | 3,666,614                     | 3,335,120                     | 8,365,323                         | 15,367,058         | 75,660                        | 140,623                     | 216,283            |
| 2011          | 155,151            | 16,415               | 171,566            | 3,818,218                     | 3,619,872                     | 8,725,837                         | 16,163,927         | 100,389                       | 189,928                     | 290,317            |
| 2012          | 344,257            | 302,679              | 646,936            | 2,284,626                     | 2,210,794                     | 5,640,000                         | 10,135,421         | 46,118                        | 192,403                     | 238,521            |
| 2013          | 427,657            | 426,180              | 853,837            | 983,507                       | 1,039,603                     | 3,311,693                         | 5,334,803          | 138,430                       | 529,491                     | 667,921            |
| 2014          | 801,146            | 732,603              | 1,533,749          | 555,096                       | 557,559                       | 1,417,084                         | 2,529,739          | 690,724                       | 2,196,826                   | 2,887,550          |
| 2015          | 290,004            | 265,892              | 555,896            | 140,882                       | 159,895                       | 443,143                           | 743,919            | 207,406                       | 552,763                     | 760,169            |
| 2016          | 124,951            | 115,845              | 240,896            | 29,052                        | 34,002                        | 95,942                            | 158,996            | 64,256                        | 193,529                     | 257,785            |
| 2017          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 3,696                         | 6,819                       | 10,515             |
| 2018          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2019          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2020          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2021          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2022          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2023          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2024          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2025          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2026          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2027          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2028          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2029          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2030          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2031          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2032          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2033          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2034          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| 2035          | 0                  | 0                    | 0                  | 0                             | 0                             | 0                                 | 0                  | 0                             | 0                           | 0                  |
| <b>TOTAL</b>  | <b>55,171,844</b>  | <b>52,567,598</b>    | <b>107,739,442</b> | <b>28,283,199</b>             | <b>29,870,192</b>             | <b>92,433,519</b>                 | <b>150,586,910</b> | <b>40,330,394</b>             | <b>446,169,682</b>          | <b>486,500,076</b> |

Note: Allocated capital costs as a result of permanent water transfers under Monterey are not reflected on this Table.

(a) Costs from Table B-10 allocated to Solano County Water Agency are reduced herein by \$2,102,700 in 1986 and \$1,823,500 in 1987 under provisions of Amendment No. 10 to its water supply contract.

**TABLE B-14 Capital Costs of Transportation Facilities Allocated to Each Contractor**

(in dollars)

Sheet 2 of 4

| Calendar Year | SAN JOAQUIN VALLEY AREA     |  |                                      |                          |                              |               |                 |                         |  |             |
|---------------|-----------------------------|--|--------------------------------------|--------------------------|------------------------------|---------------|-----------------|-------------------------|--|-------------|
|               | Dudley Ridge Water District | Empire West Side Irrigation District (b) | Future Contractor San Joaquin Valley | Kern County Water Agency |                              |               | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District | Total       |
|               |                             |  |                                      | Municipal and Industrial | Municipal and (c) Industrial | Agri-cultural |                 |                         |  |             |
|               | [11]                        | [12]                                     | [13]                                 | [14]                     | [15]                         | [16]          | [17]            | [18]                    | [19]                                     | [20]        |
| 1952          | 389                         | 20                                       | 58                                   | 938                      | 119                          | 9,129         | 20              | 12                      | 785                                      | 11,470      |
| 1953          | 1,076                       | 53                                       | 161                                  | 2,887                    | 345                          | 27,383        | 55              | 33                      | 2,157                                    | 34,150      |
| 1954          | 1,350                       | 68                                       | 201                                  | 3,373                    | 417                          | 32,369        | 69              | 43                      | 2,718                                    | 40,608      |
| 1955          | 677                         | 34                                       | 101                                  | 1,497                    | 197                          | 14,721        | 35              | 23                      | 1,371                                    | 18,656      |
| 1956          | 726                         | 34                                       | 108                                  | 2,702                    | 273                          | 24,255        | 35              | 25                      | 1,416                                    | 29,575      |
| 1957          | 932                         | 38                                       | 139                                  | 6,048                    | 494                          | 49,932        | 39              | 29                      | 1,707                                    | 59,359      |
| 1958          | 2,308                       | 102                                      | 344                                  | 14,374                   | 1,153                        | 119,049       | 104             | 61                      | 4,368                                    | 141,862     |
| 1959          | 7,384                       | 364                                      | 2,517                                | 26,218                   | 2,597                        | 253,891       | 372             | 381                     | 14,757                                   | 308,481     |
| 1960          | 12,940                      | 630                                      | 3,666                                | 34,054                   | 4,155                        | 352,166       | 644             | 498                     | 25,696                                   | 434,448     |
| 1961          | 21,848                      | 1,063                                    | 3,954                                | 51,407                   | 6,500                        | 538,707       | 1,087           | 598                     | 43,377                                   | 668,542     |
| 1962          | 49,320                      | 2,410                                    | 7,867                                | 94,933                   | 13,834                       | 1,017,146     | 2,465           | 1,879                   | 98,141                                   | 1,287,996   |
| 1963          | 208,757                     | 10,687                                   | 32,172                               | 364,014                  | 55,715                       | 3,934,636     | 10,932          | 5,990                   | 425,330                                  | 5,048,232   |
| 1964          | 328,286                     | 16,961                                   | 64,890                               | 600,152                  | 88,904                       | 6,636,279     | 17,350          | 11,942                  | 672,013                                  | 8,436,776   |
| 1965          | 538,215                     | 27,481                                   | 117,996                              | 1,098,999                | 152,930                      | 11,999,892    | 28,116          | 21,802                  | 1,095,126                                | 15,080,557  |
| 1966          | 1,107,757                   | 52,586                                   | 279,172                              | 2,218,832                | 339,222                      | 24,857,487    | 53,789          | 38,891                  | 2,173,090                                | 31,120,826  |
| 1967          | 852,537                     | 39,537                                   | 445,562                              | 2,012,744                | 286,990                      | 23,629,026    | 40,444          | 34,775                  | 1,653,429                                | 28,995,045  |
| 1968          | 198,739                     | 9,739                                    | 166,287                              | 1,104,132                | 70,086                       | 11,544,942    | 9,962           | 12,238                  | 396,075                                  | 13,512,180  |
| 1969          | 94,436                      | 4,793                                    | 35,473                               | 618,516                  | 27,216                       | 6,416,147     | 4,903           | 7,302                   | 191,574                                  | 7,398,361   |
| 1970          | 54,344                      | 2,720                                    | 21,686                               | 414,659                  | 15,520                       | 4,145,046     | 2,782           | 3,999                   | 109,470                                  | 4,770,226   |
| 1971          | 25,462                      | 1,291                                    | 12,094                               | 190,552                  | 7,114                        | 1,622,274     | 1,320           | 540                     | 51,618                                   | 1,912,264   |
| 1972          | 11,589                      | 589                                      | 8,354                                | 82,886                   | 3,409                        | 723,623       | 602             | 343                     | 23,526                                   | 854,921     |
| 1973          | 6,657                       | 335                                      | 10,201                               | 39,973                   | 1,980                        | 458,527       | 343             | 221                     | 13,448                                   | 531,685     |
| 1974          | 9,478                       | 469                                      | 11,044                               | 45,420                   | 2,766                        | 483,866       | 479             | 326                     | 18,979                                   | 572,828     |
| 1975          | 13,329                      | 677                                      | 5,246                                | 36,467                   | 3,710                        | 382,743       | 692             | 425                     | 27,048                                   | 470,338     |
| 1976          | 17,506                      | 837                                      | 12,615                               | 53,085                   | 5,621                        | 654,026       | 856             | 1,152                   | 34,455                                   | 780,152     |
| 1977          | 9,672                       | 436                                      | 47,790                               | 36,478                   | 3,753                        | 886,672       | 446             | 494                     | 18,497                                   | 1,004,236   |
| 1978          | 23,499                      | (30,406)                                 | 6,178                                | 54,219                   | 6,579                        | 575,169       | 1,209           | 1,402                   | 47,446                                   | 685,296     |
| 1979          | 25,051                      | 1,295                                    | 5,664                                | 53,866                   | 6,610                        | 559,746       | 1,325           | 1,862                   | 51,293                                   | 706,711     |
| 1980          | 144,980                     | (4,617)                                  | 31,160                               | 321,890                  | 38,126                       | 3,211,810     | 7,682           | 7,144                   | 297,215                                  | 4,055,391   |
| 1981          | (5,427)                     | (15,464)                                 | 200                                  | (44,773)                 | (1,223)                      | (385,275)     | (296)           | 1,752                   | (11,324)                                 | (461,830)   |
| 1982          | 49,916                      | 2,584                                    | 6,600                                | 83,283                   | 13,142                       | 654,692       | 2,638           | 1,252                   | 102,287                                  | 916,395     |
| 1983          | 52,429                      | (35,295)                                 | 12,125                               | 110,465                  | 13,872                       | 1,073,500     | 2,769           | 1,327                   | 107,337                                  | 1,338,529   |
| 1984          | 86,345                      | 4,474                                    | 14,303                               | 154,799                  | 22,764                       | 1,617,225     | 4,572           | 2,678                   | 177,020                                  | 2,084,180   |
| 1985          | 25,435                      | 1,311                                    | 5,649                                | 47,055                   | 6,766                        | 484,485       | 1,341           | 1,176                   | 52,013                                   | 625,231     |
| 1986          | 38,309                      | (41,067)                                 | 9,862                                | 71,661                   | 10,320                       | 796,097       | 2,009           | 778                     | 78,142                                   | 966,110     |
| 1987          | 28,769                      | 1,476                                    | 7,004                                | 55,537                   | 7,969                        | 616,845       | 1,509           | 1,491                   | 58,679                                   | 779,279     |
| 1988          | 52,329                      | 2,831                                    | 17,078                               | 70,572                   | 12,049                       | 909,046       | 2,894           | 4,620                   | 109,713                                  | 1,181,132   |
| 1989          | 156,099                     | 8,019                                    | 27,551                               | 352,103                  | 42,943                       | 3,834,481     | 8,201           | 12,134                  | 318,604                                  | 4,760,133   |
| 1990          | 292,361                     | 15,142                                   | 50,360                               | 553,394                  | 87,199                       | 6,094,021     | 15,487          | 22,729                  | 599,233                                  | 7,729,927   |
| 1991          | 349,413                     | 18,103                                   | 60,419                               | 580,572                  | 91,765                       | 6,447,565     | 18,515          | 23,486                  | 716,292                                  | 8,306,130   |
| 1992          | 125,891                     | 6,439                                    | 28,019                               | 241,559                  | 34,559                       | 2,711,639     | 6,585           | 10,883                  | 256,370                                  | 3,421,943   |
| 1993          | 86,113                      | 4,375                                    | 30,245                               | 174,630                  | 23,840                       | 2,059,168     | 4,474           | 4,698                   | 174,772                                  | 2,562,314   |
| 1994          | 64,762                      | 3,323                                    | 23,894                               | 124,518                  | 17,633                       | 1,488,418     | 3,398           | 2,173                   | 132,095                                  | 1,860,213   |
| 1995          | 82,969                      | (1,000)                                  | 72,734                               | 167,698                  | 24,390                       | 2,472,332     | 4,355           | 2,824                   | 169,318                                  | 2,995,621   |
| 1996          | 27,611                      | (61,913)                                 | 51,990                               | 68,870                   | 8,812                        | 1,233,548     | 1,437           | 1,590                   | 56,092                                   | 1,388,037   |
| 1997          | 136,503                     | 7,041                                    | 48,721                               | 241,400                  | 36,417                       | 2,951,687     | 7,195           | 3,706                   | 279,205                                  | 3,711,875   |
| 1998          | 70,737                      | (121,004)                                | 23,083                               | 122,934                  | 18,622                       | 1,474,568     | 3,742           | 1,278                   | 144,963                                  | 1,738,923   |
| 1999          | 81,197                      | 4,192                                    | 26,645                               | 142,983                  | 21,661                       | 1,715,933     | 4,285           | 3,846                   | 166,160                                  | 2,166,903   |
| 2000          | 21,089                      | 1,073                                    | 9,822                                | 45,704                   | 6,013                        | 547,927       | 1,096           | (1,081)                 | 42,826                                   | 674,466     |
| 2001          | 17,776                      | 907                                      | 7,862                                | 36,078                   | 5,062                        | 432,671       | 927             | 781                     | 36,153                                   | 538,217     |
| 2002          | 74,205                      | 3,811                                    | 16,014                               | 132,974                  | 20,050                       | 1,498,693     | 3,898           | 727                     | 151,445                                  | 1,901,817   |
| 2003          | (51,255)                    | (2,679)                                  | (5,522)                              | (76,239)                 | (13,107)                     | (824,213)     | (2,740)         | 337                     | (105,557)                                | (1,080,975) |
| 2004          | 7,704                       | 394                                      | 2,497                                | 17,036                   | 2,079                        | 183,122       | 404             | 1,518                   | 15,697                                   | 230,453     |
| 2005          | 28,573                      | 1,473                                    | 5,736                                | 52,697                   | 7,564                        | 539,512       | 1,505           | 561                     | 58,418                                   | 696,039     |
| 2006          | 4,614                       | 237                                      | 1,046                                | 20,401                   | 1,232                        | 90,220        | 243             | 731                     | 9,413                                    | 128,136     |
| 2007          | 12,178                      | 612                                      | 3,707                                | 31,565                   | 3,384                        | 269,970       | 626             | 891                     | 24,570                                   | 347,504     |
| 2008          | 44,346                      | 2,290                                    | 8,688                                | 75,101                   | 11,697                       | 830,658       | 2,341           | 2,047                   | 90,762                                   | 1,067,930   |
| 2009          | 15,016                      | 764                                      | 3,222                                | 48,339                   | 4,073                        | 302,853       | 782             | 986                     | 30,506                                   | 406,540     |
| 2010          | 26,999                      | 1,400                                    | 36,002                               | 67,320                   | 7,061                        | 844,568       | 1,432           | 283                     | 55,376                                   | 1,040,441   |
| 2011          | 34,402                      | 1,785                                    | 47,941                               | 66,136                   | 8,993                        | 1,099,107     | 1,825           | 1,245                   | 70,569                                   | 1,332,002   |
| 2012          | 35,485                      | 1,794                                    | 14,869                               | 68,191                   | 9,739                        | 818,189       | 1,835           | 2,624                   | 71,847                                   | 1,024,574   |
| 2013          | 160,312                     | 8,207                                    | 47,696                               | 282,822                  | 42,994                       | 3,325,126     | 8,394           | 13,255                  | 326,638                                  | 4,215,446   |
| 2014          | 181,207                     | 9,270                                    | 267,715                              | 334,613                  | 48,800                       | 6,361,409     | 9,483           | 6,543                   | 369,064                                  | 7,588,104   |
| 2015          | 149,974                     | 7,738                                    | 87,585                               | 255,382                  | 39,621                       | 3,538,485     | 7,913           | 8,814                   | 306,791                                  | 4,402,303   |
| 2016          | 79,483                      | 4,092                                    | 25,625                               | 134,864                  | 21,087                       | 1,618,778     | 4,184           | 1,286                   | 162,410                                  | 2,051,809   |
| 2017          | 0                           | 0  | 1,766                                | 0                        | 0                            | 20,141        | 0               | 0                       | 0  | 21,907      |
| 2018          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2019          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2020          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2021          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2022          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2023          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2024          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2025          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2026          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2027          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2028          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2029          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2030          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2031          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2032          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2033          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2034          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| 2035          | 0                           | 0  | 0                                    | 0                        | 0                            | 0             | 0               | 0                       | 0  | 0           |
| TOTAL         | 6,413,110                   | (13,041)                                 | 2,431,434                            | 14,495,560               | 1,866,176                    | 164,907,851   | 327,412         | 300,403                 | 12,900,028                               | 203,628,933 |

(b) Costs from Table B-10 allocated to Empire West Side Irrigation District are reduced herein by \$31,588 in 1978; \$12,129 in 1980; \$15,173 in 1981; \$38,004 in 1983;

\$43,033 in 1986; \$5,261 in 1995; \$63,318 in 1996 and \$124,667 in 1998 in accordance with letters of agreement with the district.

(c) Costs related to maximum annual Table A of 15,000 acre-feet under Amendment No. 18 of the water supply contract with Kern County Water Agency.

**TABLE B-14 Capital Costs of Transportation Facilities Allocated to Each Contractor**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                               |                                 |                                       |                     |                                       |                     |                         |  |   |
|---------------|--|-------------------------------|---------------------------------|---------------------------------------|---------------------|---------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency (d) | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Little Rock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [21]                                   | [22]                          | [23]                            | [24]                                  | [25]                | [26]                                  | [27]                | [28]                    | [29]   | [30]  |
| 1952          | 3,158                                  | 1,042                         | 850                             | 254                                   | 1,402               | 70                                    | 1,695               | 418                     | 6,079  | 1,550                                       |
| 1953          | 10,026                                 | 3,327                         | 2,668                           | 799                                   | 4,401               | 222                                   | 5,318               | 1,328                   | 19,058   | 4,852                                       |
| 1954          | 12,742                                 | 4,193                         | 3,465                           | 1,031                                 | 5,714               | 285                                   | 6,908               | 1,691                   | 24,608   | 6,290                                       |
| 1955          | 5,411                                  | 1,881                         | 1,374                           | 401                                   | 2,267               | 115                                   | 2,756               | 715                     | 9,229  | 2,377                                       |
| 1956          | 9,775                                  | 3,590                         | 2,196                           | 612                                   | 3,622               | 191                                   | 4,449               | 1,267                   | 13,138   | 3,438                                       |
| 1957          | 26,306                                 | 9,255                         | 6,343                           | 1,816                                 | 10,461              | 540                                   | 12,767              | 3,450                   | 40,646   | 10,534                                      |
| 1958          | 49,204                                 | 17,599                        | 11,581                          | 3,290                                 | 19,099              | 991                                   | 23,360              | 6,414                   | 72,708   | 18,898                                      |
| 1959          | 70,247                                 | 29,740                        | 15,869                          | 4,616                                 | 26,171              | 1,347                                 | 31,759              | 9,030                   | 98,596   | 25,519                                      |
| 1960          | 84,552                                 | 38,760                        | 22,068                          | 6,797                                 | 36,395              | 1,547                                 | 43,260              | 10,772                  | 147,170  | 37,469                                      |
| 1961          | 126,542                                | 54,262                        | 34,613                          | 12,530                                | 57,086              | 2,245                                 | 63,709              | 16,437                  | 236,164  | 57,707                                      |
| 1962          | 198,558                                | 85,352                        | 43,719                          | 13,861                                | 72,102              | 3,344                                 | 84,709              | 24,943                  | 253,435  | 64,330                                      |
| 1963          | 580,138                                | 255,252                       | 116,797                         | 33,149                                | 192,624             | 9,828                                 | 234,926             | 73,256                  | 610,277  | 160,624                                     |
| 1964          | 1,094,365                              | 501,858                       | 209,462                         | 55,445                                | 345,446             | 18,442                                | 429,605             | 137,769                 | 1,026,066                                      | 276,118                                     |
| 1965          | 1,908,076                              | 947,523                       | 385,533                         | 103,757                               | 635,825             | 32,819                                | 786,986             | 244,587                 | 1,913,090                                      | 512,862                                     |
| 1966          | 3,960,302                              | 2,150,972                     | 812,655                         | 215,858                               | 1,340,235           | 69,325                                | 1,664,584           | 517,269                 | 3,943,586                                      | 1,062,417                                   |
| 1967          | 4,976,538                              | 4,100,531                     | 1,077,422                       | 296,069                               | 1,776,892           | 88,301                                | 2,182,240           | 653,250                 | 5,821,681                                      | 1,550,239                                   |
| 1968          | 5,924,474                              | 3,998,942                     | 1,350,742                       | 368,156                               | 2,227,646           | 107,350                               | 2,738,009           | 783,940                 | 7,982,824                                      | 2,122,940                                   |
| 1969          | 5,822,708                              | 3,079,426                     | 1,690,259                       | 539,851                               | 2,787,631           | 121,303                               | 3,256,507           | 865,455                 | 10,898,185                                     | 2,769,647                                   |
| 1970          | 5,032,959                              | 3,277,778                     | 2,050,788                       | 695,345                               | 3,382,251           | 106,381                               | 3,872,367           | 736,775                 | 13,795,809                                     | 3,457,109                                   |
| 1971          | 2,577,507                              | 2,146,954                     | 1,071,523                       | 338,581                               | 1,767,179           | 48,337                                | 2,087,223           | 347,057                 | 8,137,053                                      | 1,987,120                                   |
| 1972          | 973,436                                | 283,257                       | 331,759                         | 92,079                                | 547,138             | 19,134                                | 668,550             | 134,360                 | 2,691,137                                      | 697,957                                     |
| 1973          | 354,407                                | 914,303                       | 158,579                         | 82,223                                | 261,557             | 6,304                                 | 238,094             | 46,102                  | 1,760,570                                      | 403,582                                     |
| 1974          | 451,450                                | 280,861                       | 259,175                         | 74,113                                | 427,433             | 8,143                                 | 518,453             | 59,145                  | 1,617,394                                      | 425,927                                     |
| 1975          | 253,438                                | 246,492                       | 193,632                         | 52,821                                | 319,337             | 4,954                                 | 392,110             | 33,995                  | 1,533,664                                      | 407,913                                     |
| 1976          | 237,539                                | 255,238                       | 136,751                         | 37,235                                | 225,529             | 4,245                                 | 277,807             | 31,002                  | 962,280  | 255,901                                     |
| 1977          | 199,554                                | 371,469                       | 91,384                          | 25,858                                | 150,711             | 3,757                                 | 183,609             | 26,834                  | 591,445  | 155,537                                     |
| 1978          | 302,111                                | 470,176                       | 78,573                          | 22,226                                | 129,584             | 5,233                                 | 157,815             | 38,654                  | 428,989  | 111,769                                     |
| 1979          | 357,678                                | 938,985                       | 81,807                          | 21,795                                | 134,915             | 5,965                                 | 166,931             | 44,410                  | 403,569  | 108,408                                     |
| 1980          | 1,867,517                              | 1,777,294                     | 423,755                         | 113,166                               | 689,855             | 32,435                                | 864,104             | 240,899                 | 2,040,757                                      | 548,085                                     |
| 1981          | (158,728)                              | 610,795                       | (47,102)                        | (8,865)                               | (77,678)            | (2,576)                               | (102,568)           | (19,588)                | (143,875)                                      | (43,557)                                    |
| 1982          | 1,557,934                              | 861,928                       | 298,770                         | 78,903                                | 492,728             | 26,237                                | 613,587             | 196,672                 | 1,421,407                                      | 388,261                                     |
| 1983          | 2,062,512                              | 521,349                       | 396,033                         | 115,678                               | 653,134             | 34,699                                | 803,945             | 259,939                 | 2,126,313                                      | 581,672                                     |
| 1984          | 1,518,361                              | 295,783                       | 297,559                         | 85,097                                | 490,731             | 27,272                                | 606,124             | 188,562                 | 1,546,628                                      | 423,408                                     |
| 1985          | 896,226                                | 158,810                       | 217,115                         | 62,532                                | 358,064             | 13,104                                | 441,299             | 107,533                 | 1,116,949                                      | 305,291                                     |
| 1986          | 841,555                                | 104,860                       | 221,194                         | 58,152                                | 364,790             | 9,038                                 | 454,702             | 93,309                  | 1,048,625                                      | 286,302                                     |
| 1987          | 333,052                                | 105,625                       | 166,099                         | 43,992                                | 273,928             | 5,566                                 | 340,485             | 40,716                  | 783,725  | 213,202                                     |
| 1988          | 259,234                                | 174,155                       | 65,831                          | 22,723                                | 108,570             | 3,384                                 | 128,339             | 26,743                  | 429,498  | 113,644                                     |
| 1989          | 1,045,999                              | 434,394                       | 323,138                         | 97,036                                | 532,920             | 16,777                                | 649,616             | 125,344                 | 1,375,722                                      | 372,048                                     |
| 1990          | 678,053                                | 374,313                       | 332,566                         | 97,789                                | 548,468             | 7,335                                 | 672,344             | 67,179                  | 1,509,745                                      | 409,710                                     |
| 1991          | 831,687                                | 401,961                       | 367,196                         | 120,925                               | 605,579             | 11,966                                | 733,443             | 92,625                  | 1,979,364                                      | 540,210                                     |
| 1992          | 633,272                                | 356,952                       | 270,826                         | 131,328                               | 446,647             | 9,556                                 | 501,634             | 76,760                  | 2,093,387                                      | 573,386                                     |
| 1993          | 634,283                                | 332,089                       | 222,347                         | 171,095                               | 366,700             | 10,194                                | 353,470             | 73,955                  | 3,848,084                                      | 1,046,752                                   |
| 1994          | 467,409                                | 165,607                       | 132,599                         | 93,839                                | 218,685             | 7,255                                 | 218,494             | 53,209                  | 2,347,599                                      | 637,733                                     |
| 1995          | 459,990                                | 293,308                       | 132,690                         | 78,390                                | 218,835             | 7,436                                 | 232,377             | 54,544                  | 1,960,100                                      | 530,656                                     |
| 1996          | 299,764                                | 206,742                       | 110,520                         | 44,965                                | 182,270             | 4,885                                 | 211,872             | 35,808                  | 4,024,655                                      | 972,829                                     |
| 1997          | 438,898                                | 249,699                       | 103,382                         | 24,640                                | 170,497             | 7,397                                 | 214,534             | 54,452                  | 2,892,626                                      | 397,103                                     |
| 1998          | 234,379                                | 202,650                       | 62,492                          | 41,136                                | 103,063             | 3,989                                 | 106,009             | 29,551                  | 3,683,353                                      | 303,255                                     |
| 1999          | 268,224                                | 175,939                       | 89,312                          | 40,069                                | 147,294             | 4,812                                 | 167,592             | 35,399                  | 5,733,587                                      | 235,054                                     |
| 2000          | 139,035                                | 77,889                        | 54,795                          | 23,903                                | 90,369              | 2,665                                 | 103,194             | 19,150                  | 14,346,200                                     | 171,107                                     |
| 2001          | 130,754                                | 44,790                        | 50,816                          | 15,641                                | 83,805              | 2,989                                 | 102,254             | 20,949                  | 20,292,396                                     | 96,254                                      |
| 2002          | 167,056                                | 107,515                       | 34,405                          | 11,395                                | 56,741              | 2,453                                 | 68,208              | 18,651                  | 9,841,902                                      | 126,427                                     |
| 2003          | (45,784)                               | (11,499)                      | 2,940                           | 2,123                                 | 4,849               | (803)                                 | 4,179               | (5,961)                 | 3,944,702                                      | 27,216                                      |
| 2004          | 63,046                                 | 38,831                        | 20,124                          | 5,569                                 | 33,188              | 1,133                                 | 41,043              | 8,244                   | 2,148,312                                      | 38,381                                      |
| 2005          | 185,058                                | 105,447                       | 38,609                          | 11,966                                | 63,674              | 3,220                                 | 76,154              | 23,692                  | 990,923  | 61,078                                      |
| 2006          | 324,022                                | 242,171                       | 66,454                          | 24,707                                | 109,600             | 5,452                                 | 123,059             | 40,808                  | 2,029,669                                      | 111,399                                     |
| 2007          | 253,594                                | 180,062                       | 56,816                          | 21,827                                | 93,702              | 4,478                                 | 109,787             | 32,702                  | 2,130,791                                      | 107,450                                     |
| 2008          | 127,876                                | 161,840                       | 65,261                          | 59,471                                | 107,643             | 2,270                                 | 71,449              | 16,554                  | 3,345,625                                      | 256,982                                     |
| 2009          | 578,313                                | 339,829                       | 153,734                         | 60,383                                | 253,550             | 9,841                                 | 275,776             | 73,233                  | 4,780,697                                      | 271,733                                     |
| 2010          | 644,608                                | 340,676                       | 193,699                         | 62,811                                | 319,456             | 10,806                                | 370,983             | 81,033                  | 5,463,969                                      | 285,765                                     |
| 2011          | 326,828                                | 210,229                       | 227,796                         | 58,634                                | 375,678             | 5,489                                 | 468,648             | 41,120                  | 6,462,756                                      | 284,070                                     |
| 2012          | 171,692                                | 100,373                       | 322,644                         | 82,393                                | 532,100             | 3,406                                 | 665,881             | 23,500                  | 12,130,397                                     | 415,671                                     |
| 2013          | 474,122                                | 225,942                       | 272,128                         | 71,316                                | 448,790             | 9,223                                 | 560,469             | 64,227                  | 34,506,263                                     | 378,986                                     |
| 2014          | 634,871                                | 631,753                       | 214,879                         | 61,811                                | 354,377             | 11,636                                | 438,321             | 83,413                  | 1,335,417                                      | 363,700                                     |
| 2015          | 414,897                                | 316,380                       | 90,553                          | 24,713                                | 149,340             | 7,502                                 | 186,343             | 54,141                  | 918,253  | 247,528                                     |
| 2016          | 198,975                                | 141,505                       | 48,571                          | 17,032                                | 80,103              | 3,727                                 | 96,489              | 26,433                  | 354,828  | 96,179                                      |
| 2017          | 0                                      | 2,578                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2018          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2019          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2020          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2021          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2022          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2023          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2024          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2025          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2026          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2027          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2028          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2029          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2030          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2031          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2032          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2033          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2034          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 2035          | 0                                      | 0                             | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| <b>TOTAL</b>  | <b>55,561,785</b>                      | <b>35,529,581</b>             | <b>16,342,134</b>               | <b>5,228,853</b>                      | <b>26,951,694</b>   | <b>996,968</b>                        | <b>32,110,144</b>   | <b>7,305,724</b>        | <b>231,879,798</b>                             | <b>28,874,004</b>                           |

(d) Costs from Table B-10 allocated to Castaic Lake Water Agency are reduced herein by \$14,088 in 1978 in accordance with a letter of agreement with the district.

**TABLE B-14 Capital Costs of Transportation Facilities Allocated to Each Contractor**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |               | FEATHER RIVER AREA |                 |                      |         | South Bay Area Future Contractor | GRAND TOTAL   |
|---------------|--------------------------------------|--|--|---------------|--------------------|-----------------|----------------------|---------|----------------------------------|---------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California (e) | Ventura County Watershed Protection District | Total         | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total   |                                  |               |
|               | [31]                                 | [32]   | [33]   | [34]          | [35]               | [36]            | [37]                 | [38]    | [39]                             | [40]          |
| 1952          | 962                                  | 69,020   | 370  | 86,871        | 0                  | 0               | 0                    | 0       | 59                               | 99,353        |
| 1953          | 3,011                                | 217,634  | 1,187  | 273,833       | 0                  | 0               | 0                    | 0       | 264                              | 311,812       |
| 1954          | 3,904                                | 279,967  | 1,496  | 352,294       | 0                  | 0               | 0                    | 0       | 766                              | 402,143       |
| 1955          | 1,474                                | 111,602  | 670  | 140,272       | 0                  | 0               | 0                    | 0       | 969                              | 169,342       |
| 1956          | 2,127                                | 179,335  | 1,299  | 225,040       | 0                  | 0               | 0                    | 0       | 9,172                            | 351,551       |
| 1957          | 6,526                                | 516,050  | 3,367  | 648,059       | 0                  | 0               | 0                    | 0       | 23,172                           | 1,464,452     |
| 1958          | 11,701                               | 945,684  | 6,390  | 1,186,917     | 0                  | 0               | 2                    | 2       | 32,888                           | 2,286,623     |
| 1959          | 15,815                               | 1,364,298  | 9,894  | 1,702,901     | 0                  | 0               | 14                   | 14      | 57,918                           | 2,967,412     |
| 1960          | 23,307                               | 1,914,521  | 12,798                                       | 2,379,418     | 0                  | 0               | 28                   | 28      | 123,202                          | 4,660,833     |
| 1961          | 36,153                               | 3,212,125  | 18,770                                       | 3,928,343     | 0                  | 0               | 10                   | 10      | 316,220                          | 8,545,244     |
| 1962          | 40,012                               | 3,543,471  | 29,069                                       | 4,456,905     | 0                  | 0               | 32                   | 32      | 228,202                          | 8,875,171     |
| 1963          | 99,266                               | 11,185,928   | 86,807                                       | 13,638,873    | 0                  | 0               | 51                   | 51      | 528,496                          | 24,610,278    |
| 1964          | 170,012                              | 18,065,455   | 164,709                                      | 22,494,750    | 0                  | 0               | 7,791                | 7,791   | 590,034                          | 41,736,060    |
| 1965          | 316,082                              | 33,763,577   | 307,475                                      | 41,858,192    | 0                  | 0               | 3,139                | 3,139   | 332,680                          | 62,664,743    |
| 1966          | 654,194                              | 74,485,027   | 681,898                                      | 91,558,323    | 0                  | 0               | (48)                 | (48)    | 783,728                          | 129,110,330   |
| 1967          | 958,406                              | 130,599,417  | 1,279,076                                    | 155,360,062   | 0                  | 0               | 47                   | 47      | 1,479,421                        | 194,146,365   |
| 1968          | 1,314,841                            | 147,502,290  | 1,360,687                                    | 177,782,842   | 0                  | 0               | 51,573               | 51,573  | 1,254,192                        | 197,978,911   |
| 1969          | 1,726,891                            | 140,096,646  | 1,085,026                                    | 174,739,535   | 0                  | 0               | 234,232              | 234,232 | 398,183                          | 184,473,490   |
| 1970          | 2,160,122                            | 161,983,078  | 1,147,609                                    | 201,698,371   | 0                  | 0               | 16,227               | 16,227  | 74,028                           | 207,082,650   |
| 1971          | 1,237,573                            | 133,903,316  | 738,822                                      | 156,388,246   | 0                  | 0               | 27,204               | 27,204  | 12,457                           | 158,624,739   |
| 1972          | 434,507                              | 43,931,880   | 66,878                                       | 50,872,072    | 0                  | 0               | 9                    | 9       | 13,182                           | 51,936,917    |
| 1973          | 256,711                              | 39,723,010   | 290,020                                      | 44,495,462    | 0                  | 0               | 25                   | 25      | 8,099                            | 45,263,853    |
| 1974          | 264,349                              | 18,896,593   | 86,362                                       | 23,369,399    | 0                  | 0               | 45                   | 45      | 28,570                           | 24,402,166    |
| 1975          | 253,838                              | 16,732,939   | 83,975                                       | 20,509,109    | 0                  | 0               | 21                   | 21      | 8,226                            | 21,318,838    |
| 1976          | 158,850                              | 13,545,451   | 84,623                                       | 16,212,450    | 0                  | 0               | 51                   | 51      | 16,486                           | 17,492,910    |
| 1977          | 96,517                               | 11,769,352   | 110,833                                      | 13,776,859    | 0                  | 0               | 28                   | 28      | 21,181                           | 15,544,382    |
| 1978          | 69,152                               | 15,781,696   | 174,876                                      | 17,770,853    | 0                  | 0               | 38                   | 38      | 28,876                           | 19,073,475    |
| 1979          | 66,847                               | 27,627,424   | 343,361                                      | 30,302,093    | 0                  | 0               | 23                   | 23      | 26,668                           | 31,857,362    |
| 1980          | 337,811                              | 59,493,774   | 641,586                                      | 69,080,039    | 0                  | 0               | 26                   | 26      | 59,169                           | 74,974,704    |
| 1981          | (26,356)                             | 15,661,179   | 224,257                                      | 15,865,338    | 0                  | 0               | 34                   | 34      | (6,746)                          | 15,727,602    |
| 1982          | 238,792                              | 30,873,857   | 316,107                                      | 37,365,183    | 0                  | 0               | 11                   | 11      | 16,086                           | 39,705,931    |
| 1983          | 357,812                              | 25,056,047   | 187,121                                      | 33,156,253    | 0                  | 0               | 19                   | 19      | 72,225                           | 38,006,645    |
| 1984          | 260,327                              | 16,317,441   | 103,160                                      | 22,160,455    | 0                  | 0               | 26                   | 26      | 83,252                           | 30,414,886    |
| 1985          | 187,699                              | 10,243,779   | 56,162                                       | 14,164,564    | 0                  | 0               | 29                   | 29      | 16,338                           | 28,581,730    |
| 1986          | 176,057                              | 8,365,310  | 34,777                                       | 12,058,671    | 0                  | 0               | 31                   | 31      | 16,248                           | 41,035,899    |
| 1987          | 131,163                              | 6,955,356  | 36,142                                       | 9,429,050     | 0                  | 0               | 32                   | 32      | 29,062                           | 32,523,660    |
| 1988          | 70,260                               | 6,626,545  | 57,117                                       | 8,086,041     | 0                  | 0               | 55                   | 55      | 50,083                           | 18,140,686    |
| 1989          | 227,772                              | 18,531,680   | 153,200                                      | 23,885,645    | 0                  | 0               | 44                   | 44      | 43,324                           | 33,301,366    |
| 1990          | 251,185                              | 17,430,869   | 125,376                                      | 22,504,929    | 0                  | 0               | 63                   | 63      | 96,419                           | 34,453,743    |
| 1991          | 331,235                              | 20,792,168   | 132,558                                      | 26,940,915    | 0                  | 0               | 54                   | 54      | 149,922                          | 39,811,664    |
| 1992          | 351,492                              | 21,196,762   | 116,999                                      | 26,758,999    | 0                  | 0               | 42                   | 42      | 80,900                           | 35,041,233    |
| 1993          | 646,980                              | 29,471,748   | 105,693                                      | 37,283,389    | 0                  | 0               | 30                   | 30      | 59,324                           | 53,921,787    |
| 1994          | 394,936                              | 16,392,019   | 50,941                                       | 21,180,326    | 0                  | 0               | 14                   | 14      | 34,208                           | 74,225,377    |
| 1995          | 331,286                              | 16,078,395   | 72,214                                       | 20,450,221    | 0                  | 0               | 3                    | 3       | 42,395                           | 191,525,108   |
| 1996          | 1,079,629                            | 23,237,696   | 49,282                                       | 30,460,917    | 0                  | 0               | 0                    | 0       | 21,388                           | 188,829,048   |
| 1997          | 1,914,804                            | 13,530,777   | 72,335                                       | 20,071,144    | 0                  | 0               | 3                    | 3       | 34,976                           | 65,660,155    |
| 1998          | 3,219,136                            | 11,284,364   | 65,745                                       | 19,339,120    | 0                  | 0               | 7                    | 7       | 11,234                           | 32,689,229    |
| 1999          | 5,888,075                            | 9,063,618  | 54,504                                       | 21,903,479    | 0                  | 0               | 2                    | 2       | 34,616                           | 35,159,766    |
| 2000          | 16,301,847                           | 5,393,221  | 24,010                                       | 36,747,384    | 0                  | 0               | 24                   | 24      | 16,912                           | 43,646,866    |
| 2001          | 23,613,431                           | 2,988,800  | 13,047                                       | 47,455,926    | 0                  | 0               | 20                   | 20      | 68,013                           | 50,961,381    |
| 2002          | 11,145,574                           | 5,297,703  | 34,824                                       | 26,912,753    | 0                  | 0               | 14                   | 14      | 380,629                          | 37,572,525    |
| 2003          | 4,489,333                            | 3,954,532  | (4,182)                                      | 12,361,646    | 0                  | 0               | 0                    | 0       | 590,121                          | 19,127,653    |
| 2004          | 2,289,248                            | 4,276,877  | 13,219                                       | 8,977,217     | 0                  | 0               | 0                    | 0       | 156,413                          | 14,405,899    |
| 2005          | 809,998                              | 6,615,802  | 36,038                                       | 9,021,661     | 0                  | 0               | 0                    | 0       | 123,949                          | 12,017,455    |
| 2006          | 1,804,216                            | 13,739,306   | 88,685                                       | 18,709,549    | 0                  | 0               | 5                    | 5       | 240,812                          | 23,020,750    |
| 2007          | 2,115,304                            | 11,645,968   | 64,671                                       | 16,817,153    | 0                  | 0               | 0                    | 0       | 241,461                          | 23,753,893    |
| 2008          | 2,803,389                            | 11,420,273   | 55,936                                       | 18,494,569    | 0                  | 0               | 4                    | 4       | 444,069                          | 33,531,675    |
| 2009          | 4,253,359                            | 22,121,478   | 122,392                                      | 33,294,318    | 0                  | 0               | 13                   | 13      | 938,784                          | 47,421,370    |
| 2010          | 5,295,483                            | 18,057,530   | 107,426                                      | 31,234,245    | 0                  | 0               | 0                    | 0       | 6,290,607                        | 54,549,782    |
| 2011          | 6,508,124                            | 12,504,183   | 53,549                                       | 27,527,104    | 0                  | 0               | 1                    | 1       | 2,488,078                        | 47,972,994    |
| 2012          | 12,627,808                           | 15,917,498   | 30,784                                       | 43,024,148    | 0                  | 0               | 0                    | 0       | 842,693                          | 55,912,293    |
| 2013          | 39,163,617                           | 23,714,159   | 65,964                                       | 99,955,208    | 0                  | 0               | 0                    | 0       | 455,304                          | 111,482,519   |
| 2014          | 229,961                              | 31,209,020   | 98,428                                       | 35,667,588    | 0                  | 0               | 0                    | 0       | 211,853                          | 50,418,583    |
| 2015          | 159,630                              | 48,215,114   | 77,491                                       | 50,861,884    | 0                  | 0               | 0                    | 0       | 64,881                           | 57,389,052    |
| 2016          | 63,236                               | 28,505,415   | 42,580                                       | 29,675,073    | 0                  | 0               | 0                    | 0       | 14,393                           | 32,398,952    |
| 2017          | 0                                    | 16,315,023   | 0  | 16,317,601    | 0                  | 0               | 0                    | 0       | 0                                | 16,350,023    |
| 2018          | 0                                    | 31,927,987   | 0  | 31,927,987    | 0                  | 0               | 0                    | 0       | 0                                | 31,927,987    |
| 2019          | 0                                    | 15,410,551   | 0  | 15,410,551    | 0                  | 0               | 0                    | 0       | 0                                | 15,410,551    |
| 2020          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2021          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2022          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2023          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2024          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2025          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2026          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2027          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2028          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2029          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2030          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2031          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2032          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2033          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2034          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| 2035          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0       | 0                                | 0             |
| TOTAL         | 160,426,801                          | 1,757,780,621  | 11,758,486                                   | 2,370,746,594 | 0                  | 0               | 341,149              | 341,149 | 20,910,733                       | 3,340,453,838 |

(e) Costs from Table B-10 allocated to MWDSC are reduced herein by \$16,425,374 in 1972 under provisions of Amendment No. 7 to its water contract.

**TABLE B-15 Capital Cost Component of Transportation Charge for Each Contractor <sup>a b c</sup>**

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                  |           | SOUTH BAY AREA                |                               |                                   |           | CENTRAL COASTAL AREA          |                             |            |
|---------------|--------------------|------------------|-----------|-------------------------------|-------------------------------|-----------------------------------|-----------|-------------------------------|-----------------------------|------------|
|               | Napa County FC&WCD | Solano County WA | Total     | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total     | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total      |
|               | [1]                | [2]              | [3]       | [4]                           | [5]                           | [6]                               | [7]       | [8]                           | [9]                         | [10]       |
| 1961          | 0                  | 0                | 0         | 0                             | 0                             | 0                                 | 0         | 0                             | 0                           | 0          |
| 1962          | 0                  | 0                | 0         | 0                             | 0                             | 0                                 | 0         | 0                             | 0                           | 0          |
| 1963          | 0                  | 0                | 0         | 153,778                       | 105,673                       | 364,827                           | 624,278   | 0                             | 0                           | 0          |
| 1964          | 0                  | 0                | 0         | 216,203                       | 170,929                       | 530,036                           | 917,168   | 6,696                         | 21,667                      | 28,363     |
| 1965          | 0                  | 0                | 0         | 284,369                       | 259,943                       | 899,371                           | 1,443,684 | 13,756                        | 36,029                      | 49,785     |
| 1966          | 18,063             | 0                | 18,063    | 320,384                       | 290,808                       | 1,073,270                         | 1,684,462 | 26,524                        | 61,349                      | 87,873     |
| 1967          | 41,574             | 0                | 41,574    | 391,262                       | 320,989                       | 1,187,619                         | 1,899,870 | 56,469                        | 118,263                     | 174,731    |
| 1968          | 121,509            | 0                | 121,509   | 507,895                       | 361,935                       | 1,309,946                         | 2,179,776 | 104,160                       | 208,037                     | 312,197    |
| 1969          | 165,289            | 0                | 165,289   | 610,131                       | 397,386                       | 1,411,701                         | 2,419,218 | 122,043                       | 242,426                     | 364,469    |
| 1970          | 169,077            | 0                | 169,077   | 644,496                       | 412,322                       | 1,450,660                         | 2,507,478 | 125,963                       | 250,808                     | 376,771    |
| 1971          | 171,286            | 0                | 171,286   | 651,385                       | 415,439                       | 1,457,564                         | 2,524,388 | 128,402                       | 256,371                     | 384,773    |
| 1972          | 172,649            | 0                | 172,649   | 652,834                       | 416,368                       | 1,461,847                         | 2,531,048 | 129,861                       | 260,482                     | 390,343    |
| 1973          | 173,649            | 31,366           | 205,015   | 654,231                       | 417,018                       | 1,465,086                         | 2,536,335 | 130,843                       | 263,040                     | 393,883    |
| 1974          | 176,527            | 32,938           | 209,466   | 655,273                       | 417,636                       | 1,467,092                         | 2,540,000 | 132,015                       | 265,901                     | 397,916    |
| 1975          | 184,973            | 36,291           | 221,264   | 657,676                       | 418,879                       | 1,470,816                         | 2,547,370 | 133,290                       | 269,028                     | 402,318    |
| 1976          | 189,650            | 40,836           | 230,485   | 659,048                       | 419,684                       | 1,472,924                         | 2,551,655 | 134,041                       | 272,155                     | 406,196    |
| 1977          | 192,592            | 45,096           | 237,688   | 661,777                       | 421,449                       | 1,478,507                         | 2,561,732 | 135,754                       | 278,799                     | 414,553    |
| 1978          | 195,860            | 49,178           | 245,038   | 665,434                       | 423,747                       | 1,485,299                         | 2,574,480 | 141,271                       | 292,281                     | 433,552    |
| 1979          | 199,390            | 53,340           | 252,730   | 670,811                       | 427,108                       | 1,494,207                         | 2,592,127 | 142,362                       | 297,569                     | 439,930    |
| 1980          | 209,132            | 67,748           | 276,880   | 674,680                       | 429,296                       | 1,499,843                         | 2,603,818 | 143,530                       | 303,969                     | 447,499    |
| 1981          | 222,599            | 87,408           | 310,007   | 684,919                       | 435,629                       | 1,515,357                         | 2,635,905 | 148,789                       | 327,544                     | 476,333    |
| 1982          | 234,191            | 106,918          | 341,110   | 682,881                       | 434,108                       | 1,512,014                         | 2,629,004 | 148,004                       | 320,657                     | 468,660    |
| 1983          | 262,160            | 151,259          | 413,419   | 684,217                       | 434,532                       | 1,513,393                         | 2,632,141 | 148,213                       | 317,658                     | 465,870    |
| 1984          | 326,072            | 224,245          | 550,317   | 695,371                       | 441,230                       | 1,530,671                         | 2,667,272 | 149,853                       | 323,275                     | 473,127    |
| 1985          | 455,836            | 364,305          | 820,141   | 707,869                       | 448,410                       | 1,548,594                         | 2,704,873 | 151,658                       | 328,761                     | 480,419    |
| 1986          | 819,636            | 692,479          | 1,512,115 | 709,844                       | 449,390                       | 1,551,318                         | 2,710,553 | 152,545                       | 332,779                     | 485,324    |
| 1987          | 1,360,688          | 1,559,243        | 2,919,931 | 712,505                       | 451,007                       | 1,555,828                         | 2,719,341 | 154,805                       | 348,472                     | 503,277    |
| 1988          | 1,771,651          | 2,208,121        | 3,979,772 | 716,801                       | 453,514                       | 1,562,985                         | 2,733,300 | 161,346                       | 417,591                     | 578,937    |
| 1989          | 1,891,484          | 2,433,160        | 4,324,645 | 725,742                       | 459,332                       | 1,578,655                         | 2,763,729 | 169,453                       | 494,247                     | 663,699    |
| 1990          | 1,955,330          | 2,514,151        | 4,469,481 | 733,850                       | 464,692                       | 1,592,216                         | 2,790,758 | 177,387                       | 557,384                     | 734,771    |
| 1991          | 1,978,582          | 2,557,403        | 4,535,985 | 750,958                       | 476,459                       | 1,625,032                         | 2,852,449 | 189,050                       | 639,235                     | 828,285    |
| 1992          | 1,983,860          | 2,562,121        | 4,545,981 | 781,557                       | 496,722                       | 1,675,047                         | 2,953,326 | 204,822                       | 754,678                     | 959,500    |
| 1993          | 1,986,897          | 2,565,427        | 4,552,324 | 795,916                       | 505,773                       | 1,698,585                         | 3,000,275 | 224,056                       | 941,300                     | 1,165,356  |
| 1994          | 1,993,467          | 2,572,330        | 4,565,797 | 806,347                       | 512,498                       | 1,716,961                         | 3,035,806 | 286,878                       | 1,585,162                   | 1,872,040  |
| 1995          | 1,997,323          | 2,576,836        | 4,574,159 | 810,823                       | 515,639                       | 1,729,387                         | 3,055,848 | 517,412                       | 4,095,799                   | 4,613,211  |
| 1996          | 1,998,994          | 2,578,433        | 4,577,427 | 818,727                       | 520,936                       | 1,743,439                         | 3,083,103 | 1,187,010                     | 12,569,247                  | 13,756,257 |
| 1997          | 2,000,110          | 2,579,484        | 4,579,594 | 822,777                       | 523,583                       | 1,750,461                         | 3,096,821 | 1,808,545                     | 20,578,178                  | 22,386,724 |
| 1998          | 2,001,225          | 2,585,478        | 4,586,703 | 829,507                       | 527,976                       | 1,762,113                         | 3,119,597 | 1,985,644                     | 22,700,288                  | 24,685,933 |
| 1999          | 2,002,204          | 2,586,690        | 4,588,893 | 831,736                       | 529,331                       | 1,765,656                         | 3,126,723 | 2,035,260                     | 23,293,767                  | 25,329,027 |
| 2000          | 2,006,043          | 2,592,730        | 4,598,773 | 990,917                       | 533,508                       | 1,777,485                         | 3,301,911 | 2,088,005                     | 23,838,744                  | 25,926,748 |
| 2001          | 2,326,141          | 2,781,857        | 5,107,998 | 1,124,025                     | 535,165                       | 1,782,101                         | 3,441,291 | 2,116,046                     | 24,156,352                  | 26,272,398 |
| 2002          | 2,326,580          | 2,782,697        | 5,109,277 | 1,138,427                     | 550,866                       | 1,890,059                         | 3,579,352 | 2,120,253                     | 24,187,702                  | 26,307,955 |
| 2003          | 2,327,924          | 2,785,506        | 5,113,431 | 1,223,134                     | 620,921                       | 2,236,139                         | 4,080,194 | 2,123,974                     | 24,209,864                  | 26,333,838 |
| 2004          | 2,331,608          | 2,786,800        | 5,118,408 | 1,356,793                     | 700,388                       | 2,511,867                         | 4,569,048 | 2,123,820                     | 24,214,471                  | 26,338,291 |
| 2005          | 2,342,156          | 2,788,138        | 5,130,294 | 1,393,586                     | 721,344                       | 2,760,543                         | 4,875,473 | 2,124,359                     | 24,217,267                  | 26,341,626 |
| 2006          | 2,346,408          | 2,792,371        | 5,138,778 | 1,429,103                     | 742,250                       | 2,855,355                         | 5,026,708 | 2,123,710                     | 24,206,365                  | 26,330,075 |
| 2007          | 2,409,448          | 2,793,752        | 5,203,201 | 1,500,373                     | 783,593                       | 2,954,841                         | 5,238,806 | 2,124,120                     | 24,210,213                  | 26,334,333 |
| 2008          | 2,643,266          | 2,796,757        | 5,440,023 | 1,573,167                     | 825,720                       | 3,055,940                         | 5,454,826 | 2,125,092                     | 24,215,452                  | 26,340,544 |
| 2009          | 3,224,643          | 2,801,088        | 6,025,731 | 1,709,530                     | 904,528                       | 3,244,580                         | 5,858,638 | 2,126,569                     | 24,221,214                  | 26,347,783 |
| 2010          | 3,314,473          | 2,802,556        | 6,117,029 | 2,001,740                     | 1,074,753                     | 3,650,561                         | 6,727,054 | 2,127,146                     | 24,226,130                  | 26,353,275 |
| 2011          | 3,344,890          | 2,802,854        | 6,147,744 | 2,700,112                     | 1,299,661                     | 4,214,687                         | 8,214,460 | 2,132,248                     | 24,235,613                  | 26,367,861 |
| 2012          | 3,357,049          | 2,804,036        | 6,161,085 | 3,197,050                     | 1,549,289                     | 4,816,425                         | 9,562,765 | 2,139,171                     | 24,248,710                  | 26,387,881 |
| 2013          | 3,384,792          | 2,827,281        | 6,212,073 | 3,285,900                     | 1,599,766                     | 4,849,956                         | 9,735,622 | 2,142,428                     | 24,262,300                  | 26,404,728 |
| 2014          | 3,420,172          | 2,860,820        | 6,280,991 | 3,338,180                     | 1,609,847                     | 4,924,734                         | 9,872,762 | 2,145,764                     | 24,279,004                  | 26,424,767 |
| 2015          | 3,488,289          | 2,920,400        | 6,408,689 | 3,330,901                     | 1,562,367                     | 4,660,961                         | 9,554,229 | 2,190,158                     | 24,428,288                  | 26,618,446 |
| 2016          | 3,493,116          | 2,942,674        | 6,435,790 | 3,310,289                     | 1,543,771                     | 4,521,068                         | 9,375,128 | 2,193,305                     | 24,445,385                  | 26,638,689 |
| 2017          | 3,477,695          | 2,952,696        | 6,430,391 | 3,239,727                     | 1,516,284                     | 4,414,320                         | 9,170,332 | 2,168,451                     | 24,403,805                  | 26,572,256 |
| 2018          | 3,386,884          | 2,952,696        | 6,339,580 | 3,120,038                     | 1,475,339                     | 4,291,993                         | 8,887,370 | 2,121,063                     | 24,314,590                  | 26,435,653 |
| 2019          | 3,337,134          | 2,952,696        | 6,289,830 | 3,014,515                     | 1,439,888                     | 4,190,239                         | 8,644,642 | 2,103,180                     | 24,280,201                  | 26,383,381 |
| 2020          | 3,332,811          | 2,952,696        | 6,285,507 | 2,978,719                     | 1,424,951                     | 4,151,280                         | 8,554,950 | 2,099,260                     | 24,271,819                  | 26,371,079 |
| 2021          | 3,330,279          | 2,952,696        | 6,282,975 | 2,971,521                     | 1,421,834                     | 4,144,375                         | 8,537,730 | 2,096,821                     | 24,266,256                  | 26,363,077 |
| 2022          | 3,328,719          | 2,952,696        | 6,281,415 | 2,970,145                     | 1,420,906                     | 4,140,093                         | 8,531,144 | 2,095,362                     | 24,262,145                  | 26,357,508 |
| 2023          | 3,327,576          | 2,919,163        | 6,246,739 | 2,968,736                     | 1,420,256                     | 4,136,853                         | 8,525,845 | 2,094,380                     | 24,259,587                  | 26,353,967 |
| 2024          | 3,324,296          | 2,917,529        | 6,241,825 | 2,967,673                     | 1,419,638                     | 4,134,847                         | 8,522,158 | 2,093,208                     | 24,256,726                  | 26,349,934 |
| 2025          | 3,314,680          | 2,913,952        | 6,228,633 | 2,965,337                     | 1,418,395                     | 4,131,123                         | 8,514,856 | 2,091,933                     | 24,253,600                  | 26,345,533 |
| 2026          | 3,309,337          | 2,909,199        | 6,218,535 | 2,963,864                     | 1,417,590                     | 4,129,015                         | 8,510,469 | 2,091,182                     | 24,250,472                  | 26,341,654 |
| 2027          | 3,305,965          | 2,904,764        | 6,210,729 | 2,960,876                     | 1,415,825                     | 4,123,433                         | 8,500,134 | 2,089,469                     | 24,243,828                  | 26,333,297 |
| 2028          | 3,302,225          | 2,900,505        | 6,202,730 | 2,956,867                     | 1,413,527                     | 4,116,640                         | 8,487,034 | 2,083,952                     | 24,230,346                  | 26,314,298 |
| 2029          | 3,298,188          | 2,896,137        | 6,194,324 | 2,950,870                     | 1,410,165                     | 4,107,732                         | 8,468,767 | 2,082,861                     | 24,225,059                  | 26,307,920 |
| 2030          | 3,287,031          | 2,880,675        | 6,167,706 | 2,946,673                     | 1,407,978                     | 4,102,096                         | 8,456,747 | 2,081,693                     | 24,218,658                  | 26,300,351 |
| 2031          | 3,271,615          | 2,859,608        | 6,131,223 | 2,935,191                     | 1,401,645                     | 4,086,582                         | 8,423,418 | 2,076,434                     | 24,195,083                  | 26,271,517 |
| 2032          | 3,258,318          | 2,838,664        | 6,096,982 | 2,937,707                     | 1,403,166                     | 4,089,925                         | 8,430,797 | 2,077,219                     | 24,201,971                  | 26,279,190 |
| 2033          | 3,226,258          | 2,791,213        | 6,017,471 | 2,936,466                     | 1,402,742                     | 4,088,546                         | 8,427,754 | 2,077,010                     | 24,204,970                  | 26,281,980 |
| 2034          | 3,153,162          | 2,714,596        | 5,867,758 | 2,924,043                     | 1,396,044                     |                                   |           |                               |                             |            |

**TABLE B-15 Capital Cost Component of Transportation Charge for Each Contractor<sup>a b c</sup>**

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| Calendar Year | (in dollars)                |                                      |                                      |                          |           |             |                 |                         |  |             |
|---------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|-----------|-------------|-----------------|-------------------------|--|-------------|
|               | SAN JOAQUIN VALLEY AREA     |                                      |                                      |                          |           |             |                 |                         |  |             |
|               | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency |           |             | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District | Total       |
|               | [11]                        | [12]                                 | [13]                                 | [14]                     | [15]      | [16]        | [17]            | [18]                    | [19]                                     | [20]        |
| 1961          | 0                           | 0                                    | 0                                    | 0                        | 0         | 0           | 0               | 0                       | 0  | 0           |
| 1962          | 0                           | 0                                    | 0                                    | 0                        | 0         | 0           | 0               | 0                       | 0  | 0           |
| 1963          | 0                           | 0                                    | 0                                    | 0                        | 0         | 0           | 0               | 0                       | 0  | 0           |
| 1964          | 0                           | 0                                    | 2,725                                | 0                        | 0         | 0           | 0               | 0                       | 0  | 2,725       |
| 1965          | 0                           | 0                                    | 6,029                                | 64,284                   | 9,284     | 0           | 0               | 0                       | 0  | 79,598      |
| 1966          | 0                           | 0                                    | 12,039                               | 120,256                  | 17,073    | 0           | 0               | 0                       | 0  | 149,368     |
| 1967          | 0                           | 0                                    | 26,257                               | 233,262                  | 34,350    | 0           | 0               | 0                       | 0  | 293,869     |
| 1968          | 78,329                      | 1,795                                | 48,950                               | 335,771                  | 48,966    | 427,820     | 9,407           | 4,812                   | 66,040                                   | 1,021,890   |
| 1969          | 78,466                      | 5,384                                | 57,418                               | 392,005                  | 52,536    | 878,605     | 10,158          | 5,230                   | 249,873                                  | 1,729,674   |
| 1970          | 85,998                      | 5,384                                | 59,224                               | 423,404                  | 53,922    | 1,068,647   | 10,446          | 5,439                   | 184,912                                  | 1,897,376   |
| 1971          | 98,048                      | 5,384                                | 60,329                               | 444,522                  | 54,712    | 1,419,347   | 10,612          | 5,858                   | 196,772                                  | 2,295,584   |
| 1972          | 109,551                     | 5,384                                | 60,945                               | 454,227                  | 55,075    | 2,125,350   | 10,694          | 11,226                  | 607,027                                  | 3,439,478   |
| 1973          | 120,506                     | 5,384                                | 61,370                               | 458,449                  | 55,248    | 2,451,269   | 10,736          | 6,485                   | 234,789                                  | 3,404,236   |
| 1974          | 182,895                     | 5,384                                | 61,890                               | 460,485                  | 55,349    | 2,745,058   | 10,770          | 7,261                   | 389,710                                  | 3,918,801   |
| 1975          | 222,142                     | 5,384                                | 62,452                               | 462,798                  | 55,490    | 3,287,823   | 10,812          | 7,481                   | 465,017                                  | 4,579,399   |
| 1976          | 169,371                     | 5,384                                | 62,720                               | 464,655                  | 55,679    | 3,544,246   | 10,853          | 8,449                   | 332,663                                  | 4,654,019   |
| 1977          | 166,518                     | 5,384                                | 63,362                               | 467,359                  | 55,965    | 3,883,474   | 10,914          | 7,740                   | 318,069                                  | 4,978,785   |
| 1978          | 178,020                     | 0                                    | 65,796                               | 469,216                  | 56,156    | 4,316,809   | 11,019          | 8,159                   | 341,251                                  | 5,446,427   |
| 1979          | 211,127                     | 5,384                                | 66,111                               | 471,978                  | 56,491    | 4,740,047   | 11,086          | 8,368                   | 384,061                                  | 5,954,653   |
| 1980          | 224,580                     | 5,384                                | 66,399                               | 474,721                  | 56,828    | 5,172,459   | 11,157          | 11,924                  | 386,535                                  | 6,409,987   |
| 1981          | 224,580                     | 5,384                                | 67,986                               | 491,115                  | 58,770    | 5,660,870   | 11,565          | 8,996                   | 409,717                                  | 6,938,983   |
| 1982          | 224,580                     | 5,384                                | 67,996                               | 488,835                  | 58,707    | 6,111,657   | 11,552          | 9,414                   | 432,359                                  | 7,410,485   |
| 1983          | 234,987                     | 5,384                                | 68,332                               | 493,076                  | 59,377    | 6,624,862   | 11,685          | 7,887                   | 51,473                                   | 7,557,064   |
| 1984          | 247,038                     | 5,384                                | 68,950                               | 498,702                  | 60,083    | 6,953,669   | 11,834          | 10,041                  | 337,536                                  | 8,193,237   |
| 1985          | 258,540                     | 5,384                                | 69,678                               | 506,586                  | 61,243    | 7,404,443   | 12,069          | 10,251                  | 245,555                                  | 8,573,750   |
| 1986          | 270,043                     | 5,384                                | 69,966                               | 508,983                  | 61,587    | 7,524,644   | 12,141          | 10,669                  | 524,006                                  | 8,987,423   |
| 1987          | 281,546                     | 5,384                                | 70,471                               | 512,652                  | 62,116    | 8,306,917   | 12,251          | 10,878                  | 546,648                                  | 9,808,863   |
| 1988          | 293,049                     | 5,384                                | 70,832                               | 515,513                  | 62,526    | 8,731,990   | 12,334          | 11,297                  | 569,290                                  | 10,272,214  |
| 1989          | 304,552                     | 5,384                                | 71,717                               | 519,169                  | 63,150    | 9,038,623   | 12,501          | 11,715                  | 592,472                                  | 10,619,283  |
| 1990          | 158,027                     | 5,384                                | 73,153                               | 537,527                  | 65,389    | 9,357,204   | 12,936          | 11,924                  | 638,834                                  | 10,860,379  |
| 1991          | 292,562                     | 5,384                                | 75,796                               | 566,573                  | 69,966    | 9,357,204   | 13,762          | 11,924                  | 638,834                                  | 11,032,006  |
| 1992          | 316,055                     | 5,384                                | 78,990                               | 597,260                  | 74,817    | 9,357,204   | 14,756          | 11,924                  | 638,834                                  | 11,095,224  |
| 1993          | 316,055                     | 5,384                                | 80,482                               | 610,123                  | 76,657    | 9,357,204   | 15,124          | 11,924                  | 638,834                                  | 11,111,787  |
| 1994          | 316,055                     | 5,384                                | 82,105                               | 619,494                  | 77,936    | 9,357,204   | 15,397          | 11,924                  | 638,834                                  | 11,124,333  |
| 1995          | 316,055                     | 5,384                                | 83,398                               | 626,231                  | 78,890    | 9,357,204   | 15,608          | 11,924                  | 638,834                                  | 11,133,528  |
| 1996          | 292,338                     | 5,384                                | 87,367                               | 635,384                  | 80,221    | 9,036,531   | 15,961          | 11,924                  | 638,834                                  | 10,803,945  |
| 1997          | 292,338                     | 5,384                                | 90,231                               | 639,177                  | 80,707    | 8,970,594   | 16,133          | 11,924                  | 638,834                                  | 10,745,321  |
| 1998          | 292,337                     | 5,384                                | 92,940                               | 652,602                  | 82,732    | 8,717,960   | 16,588          | 11,924                  | 638,834                                  | 10,511,302  |
| 1999          | 292,337                     | 5,384                                | 94,237                               | 659,509                  | 83,778    | 8,717,960   | 16,823          | 11,924                  | 638,834                                  | 10,520,787  |
| 2000          | 292,337                     | 5,384                                | 95,750                               | 667,629                  | 85,008    | 8,074,573   | 17,096          | 11,924                  | 638,834                                  | 9,888,536   |
| 2001          | 292,337                     | 5,384                                | 96,315                               | 670,255                  | 85,354    | 7,942,891   | 17,172          | 11,924                  | 638,834                                  | 9,760,465   |
| 2002          | 314,518                     | 5,384                                | 96,772                               | 672,352                  | 85,648    | 7,942,891   | 17,237          | 11,924                  | 599,972                                  | 9,746,697   |
| 2003          | 314,518                     | 5,384                                | 97,715                               | 680,183                  | 86,829    | 7,942,891   | 17,476          | 11,924                  | 597,755                                  | 9,754,675   |
| 2004          | 314,518                     | 5,384                                | 97,385                               | 675,632                  | 86,046    | 7,930,824   | 45,026          | 11,924                  | 515,180                                  | 9,681,920   |
| 2005          | 314,518                     | 5,384                                | 97,536                               | 676,664                  | 86,172    | 7,930,824   | 45,054          | 11,924                  | 515,180                                  | 9,683,256   |
| 2006          | 314,518                     | 5,384                                | 97,889                               | 679,904                  | 86,637    | 7,930,824   | 46,839          | 11,924                  | 513,490                                  | 9,687,410   |
| 2007          | 314,518                     | 5,384                                | 97,954                               | 681,179                  | 86,714    | 7,930,824   | 46,855          | 11,924                  | 513,490                                  | 9,688,843   |
| 2008          | 314,518                     | 5,384                                | 98,190                               | 683,186                  | 86,930    | 7,930,824   | 46,899          | 11,924                  | 513,490                                  | 9,691,345   |
| 2009          | 314,518                     | 5,384                                | 98,753                               | 688,049                  | 87,687    | 7,930,824   | 47,056          | 11,924                  | 513,490                                  | 9,697,685   |
| 2010          | 276,175                     | 5,384                                | 98,965                               | 691,242                  | 87,956    | 7,758,047   | 47,110          | 11,924                  | 474,696                                  | 9,451,499   |
| 2011          | 276,175                     | 5,384                                | 101,393                              | 695,781                  | 88,432    | 7,758,047   | 47,282          | 11,924                  | 474,696                                  | 9,459,115   |
| 2012          | 276,175                     | 5,384                                | 104,699                              | 700,342                  | 89,052    | 7,758,047   | 47,511          | 11,924                  | 474,696                                  | 9,467,831   |
| 2013          | 276,175                     | 5,384                                | 105,750                              | 705,159                  | 89,740    | 7,758,047   | 47,664          | 11,924                  | 474,696                                  | 9,474,539   |
| 2014          | 265,258                     | 5,384                                | 106,481                              | 725,654                  | 92,856    | 7,758,047   | 48,333          | 11,924                  | 466,655                                  | 9,480,592   |
| 2015          | 272,544                     | 5,384                                | 123,119                              | 686,296                  | 87,207    | 8,134,624   | 49,667          | 11,924                  | 466,655                                  | 9,837,420   |
| 2016          | 272,544                     | 5,384                                | 123,831                              | 649,921                  | 82,458    | 8,134,624   | 50,450          | 11,924                  | 466,655                                  | 9,797,790   |
| 2017          | 272,544                     | 5,384                                | 111,643                              | 547,601                  | 66,852    | 8,134,624   | 50,820          | 11,924                  | 466,655                                  | 9,668,047   |
| 2018          | 272,544                     | 5,384                                | 89,095                               | 445,092                  | 52,236    | 8,134,624   | 41,418          | 11,924                  | 466,655                                  | 9,518,972   |
| 2019          | 272,544                     | 5,384                                | 80,627                               | 388,858                  | 48,666    | 8,134,624   | 40,667          | 11,924                  | 466,655                                  | 9,449,950   |
| 2020          | 250,633                     | 5,384                                | 78,821                               | 357,459                  | 47,280    | 8,134,624   | 40,379          | 11,924                  | 466,655                                  | 9,393,159   |
| 2021          | 250,633                     | 5,384                                | 77,716                               | 336,340                  | 46,490    | 8,134,624   | 40,213          | 11,924                  | 466,655                                  | 9,369,979   |
| 2022          | 250,633                     | 5,384                                | 77,100                               | 326,635                  | 46,128    | 8,134,624   | 40,131          | 11,924                  | 466,655                                  | 9,359,214   |
| 2023          | 250,633                     | 5,384                                | 76,675                               | 322,414                  | 45,954    | 8,134,624   | 40,089          | 11,924                  | 466,655                                  | 9,354,351   |
| 2024          | 250,633                     | 5,384                                | 76,155                               | 320,378                  | 45,853    | 8,134,624   | 40,055          | 11,924                  | 466,655                                  | 9,351,661   |
| 2025          | 250,633                     | 5,384                                | 75,593                               | 318,065                  | 45,712    | 8,134,624   | 40,013          | 11,924                  | 466,655                                  | 9,348,603   |
| 2026          | 250,633                     | 5,384                                | 75,325                               | 316,208                  | 45,523    | 8,134,624   | 39,972          | 11,924                  | 466,655                                  | 9,346,248   |
| 2027          | 250,633                     | 5,384                                | 74,683                               | 313,504                  | 45,237    | 8,134,624   | 39,911          | 11,924                  | 466,655                                  | 9,342,554   |
| 2028          | 250,633                     | 5,384                                | 72,249                               | 311,646                  | 45,046    | 8,134,624   | 39,805          | 11,924                  | 466,655                                  | 9,337,966   |
| 2029          | 250,633                     | 5,384                                | 71,934                               | 308,885                  | 44,711    | 8,134,624   | 39,739          | 11,924                  | 466,655                                  | 9,334,489   |
| 2030          | 250,633                     | 5,384                                | 71,646                               | 306,141                  | 44,374    | 8,134,624   | 39,668          | 11,924                  | 466,655                                  | 9,331,049   |
| 2031          | 250,633                     | 5,384                                | 70,059                               | 289,747                  | 42,432    | 8,134,624   | 39,260          | 11,924                  | 466,655                                  | 9,310,718   |
| 2032          | 250,633                     | 5,384                                | 70,049                               | 292,028                  | 42,495    | 8,134,624   | 39,273          | 11,924                  | 466,655                                  | 9,313,064   |
| 2033          | 250,633                     | 5,384                                | 69,712                               | 287,786                  | 41,825    | 8,134,624   | 39,140          | 11,924                  | 466,655                                  | 9,307,684   |
| 2034          | 250,633                     | 5,384                                | 69,095                               | 282,160                  | 41,119    | 8,134,624   | 38,991          | 11,924                  | 466,655                                  | 9,300,585   |
| 2035          | 250,633                     | 5,384                                | 68,367                               | 274,276                  | 39,959    | 8,134,624   | 38,756          | 11,924                  | 466,655                                  | 9,290,578   |
| TOTAL         | 16,992,249                  | 357,139                              | 5,503,683                            | 34,850,554               | 4,450,398 | 483,110,427 | 1,852,708       | 738,084                 | 31,979,024                               | 579,834,266 |

(a) Unadjusted for prior overpayments or underpayments of charges.

(b) Determined at the current Project Interest Rate of 4.610 percent per annum.

(c) Reflects the transfers of permanent aqueduct capacity among contractors.

(d) Charges under Amendment No. 18 of the water supply contract with Kern County Water Agency.

**TABLE B-15 Capital Cost Component of Transportation Charge for Each Contractor<sup>a b c</sup>**

Sheet 3 of 4

| Calendar Year                          | (in dollars)              |                                 |                                       |                     |                                       |                     |                         |  |   |           |
|--|---------------------------|---------------------------------|---------------------------------------|---------------------|---------------------------------------|---------------------|-------------------------|--|---|-----------|
|  | SOUTHERN CALIFORNIA AREA  |                                 |                                       |                     |                                       |                     |                         |  |   |           |
| Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Little Rock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |           |
| [21]                                   | [22]                      | [23]                            | [24]                                  | [25]                | [26]                                  | [27]                | [28]                    | [29]   | [30]  |           |
| 1961                                   | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |           |
| 1962                                   | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |           |
| 1963                                   | 34,411                    | 0                               | 0                                     | 0                   | 726                                   | 0                   | 0                       | 51,729   | 0   |           |
| 1964                                   | 64,494                    | 27,447                          | 19,542                                | 4,370               | 38,211                                | 1,143               | 30,324                  | 8,205  | 82,811                                      | 34,987    |
| 1965                                   | 121,484                   | 53,007                          | 34,348                                | 7,194               | 42,701                                | 2,082               | 53,730                  | 15,222   | 135,069                                     | 35,344    |
| 1966                                   | 221,012                   | 101,264                         | 62,476                                | 12,478              | 76,886                                | 3,753               | 96,944                  | 27,679   | 232,502                                     | 61,465    |
| 1967                                   | 427,622                   | 210,814                         | 121,269                               | 23,472              | 148,839                               | 7,284               | 188,141                 | 54,023   | 433,350                                     | 115,574   |
| 1968                                   | 689,327                   | 419,886                         | 206,952                               | 38,551              | 245,877                               | 11,781              | 311,520                 | 87,293   | 729,849                                     | 194,527   |
| 1969                                   | 1,003,797                 | 623,799                         | 318,583                               | 57,301              | 368,426                               | 17,249              | 467,673                 | 127,219  | 1,136,415                                   | 302,649   |
| 1970                                   | 1,312,832                 | 780,737                         | 451,031                               | 84,796              | 520,243                               | 23,427              | 651,014                 | 171,297  | 1,691,461                                   | 443,708   |
| 1971                                   | 1,581,850                 | 947,865                         | 595,102                               | 120,210             | 700,914                               | 28,845              | 863,569                 | 208,821  | 2,394,083                                   | 619,778   |
| 1972                                   | 1,720,363                 | 1,057,593                       | 671,098                               | 137,454             | 795,465                               | 31,306              | 979,206                 | 226,497  | 2,808,504                                   | 720,983   |
| 1973                                   | 1,772,377                 | 1,072,197                       | 696,065                               | 142,143             | 825,044                               | 32,281              | 1,016,891               | 233,340  | 2,945,564                                   | 756,530   |
| 1974                                   | 1,791,355                 | 1,118,922                       | 707,278                               | 146,331             | 839,031                               | 32,602              | 1,030,766               | 235,688  | 3,035,230                                   | 777,084   |
| 1975                                   | 1,815,881                 | 1,133,522                       | 724,295                               | 150,105             | 861,611                               | 33,017              | 1,059,682               | 238,700  | 3,117,604                                   | 798,777   |
| 1976                                   | 1,829,760                 | 1,146,215                       | 736,112                               | 152,796             | 878,290                               | 33,269              | 1,080,890               | 240,431  | 3,195,714                                   | 819,552   |
| 1977                                   | 1,842,615                 | 1,159,398                       | 744,718                               | 154,692             | 890,124                               | 33,485              | 1,096,335               | 242,010  | 3,244,723                                   | 832,585   |
| 1978                                   | 1,853,320                 | 1,178,553                       | 750,463                               | 156,009             | 898,031                               | 33,676              | 1,106,963               | 243,377  | 3,274,845                                   | 840,506   |
| 1979                                   | 1,869,355                 | 1,202,728                       | 756,140                               | 157,141             | 904,987                               | 33,943              | 1,116,475               | 245,346  | 3,296,693                                   | 846,199   |
| 1980                                   | 1,888,324                 | 1,250,787                       | 762,012                               | 158,251             | 912,220                               | 34,247              | 1,126,485               | 247,607  | 3,317,247                                   | 851,720   |
| 1981                                   | 1,987,339                 | 1,341,569                       | 796,384                               | 164,015             | 950,529                               | 35,899              | 1,176,208               | 259,877  | 3,421,183                                   | 879,634   |
| 1982                                   | 1,978,809                 | 1,372,922                       | 789,720                               | 163,563             | 945,667                               | 35,768              | 1,170,315               | 258,879  | 3,413,856                                   | 877,416   |
| 1983                                   | 2,061,590                 | 1,417,099                       | 809,319                               | 167,582             | 971,692                               | 37,104              | 1,204,224               | 268,895  | 3,486,248                                   | 897,190   |
| 1984                                   | 2,171,231                 | 1,443,828                       | 834,564                               | 173,473             | 1,006,034                             | 38,871              | 1,243,893               | 282,134  | 3,594,542                                   | 926,815   |
| 1985                                   | 2,251,676                 | 1,459,137                       | 851,720                               | 177,807             | 1,031,452                             | 40,260              | 1,276,416               | 291,738  | 3,673,311                                   | 948,379   |
| 1986                                   | 2,299,323                 | 1,467,468                       | 863,875                               | 180,992             | 1,049,921                             | 40,927              | 1,308,981               | 297,214  | 3,730,198                                   | 963,927   |
| 1987                                   | 2,344,046                 | 1,473,086                       | 876,261                               | 183,970             | 1,068,826                             | 41,390              | 1,324,799               | 301,992  | 3,783,895                                   | 978,588   |
| 1988                                   | 2,362,143                 | 1,478,756                       | 885,509                               | 186,235             | 1,083,080                             | 41,677              | 1,343,449               | 304,089  | 3,824,257                                   | 989,568   |
| 1989                                   | 2,376,030                 | 1,487,946                       | 889,631                               | 187,412             | 1,088,857                             | 41,852              | 1,350,988               | 305,475  | 3,846,509                                   | 995,456   |
| 1990                                   | 2,432,706                 | 1,510,767                       | 912,986                               | 192,472             | 1,118,024                             | 42,727              | 1,387,897               | 312,010  | 3,918,238                                   | 1,014,854 |
| 1991                                   | 2,469,661                 | 1,530,414                       | 932,659                               | 197,604             | 1,147,282                             | 43,112              | 1,424,004               | 315,536  | 3,997,480                                   | 1,036,359 |
| 1992                                   | 2,514,880                 | 1,551,660                       | 953,475                               | 203,996             | 1,179,589                             | 43,744              | 1,463,291               | 320,432  | 4,102,102                                   | 1,064,912 |
| 1993                                   | 2,549,874                 | 1,570,667                       | 969,784                               | 210,989             | 1,203,773                             | 44,253              | 1,490,698               | 324,519  | 4,213,571                                   | 1,095,444 |
| 1994                                   | 2,585,113                 | 1,588,489                       | 983,985                               | 220,171             | 1,223,934                             | 44,800              | 1,510,504               | 328,488  | 4,420,076                                   | 1,151,617 |
| 1995                                   | 2,611,217                 | 1,597,449                       | 992,587                               | 225,248             | 1,236,069                             | 45,193              | 1,522,852               | 331,367  | 4,547,097                                   | 1,186,123 |
| 1996                                   | 2,637,094                 | 1,613,457                       | 1,001,843                             | 229,526             | 1,248,440                             | 45,599              | 1,536,278               | 334,344  | 4,654,074                                   | 1,215,084 |
| 1997                                   | 2,654,359                 | 1,624,844                       | 1,010,118                             | 232,003             | 1,258,944                             | 45,868              | 1,548,754               | 336,316  | 4,875,746                                   | 1,268,666 |
| 1998                                   | 2,679,335                 | 1,638,731                       | 1,017,568                             | 233,373             | 1,268,786                             | 46,279              | 1,074,235               | 339,344  | 5,036,613                                   | 1,290,750 |
| 1999                                   | 2,692,811                 | 1,650,116                       | 1,022,130                             | 235,684             | 1,274,800                             | 46,503              | 2,081,509               | 341,005  | 5,243,553                                   | 1,307,788 |
| 2000                                   | 2,708,447                 | 2,804,073                       | 1,028,194                             | 237,960             | 1,283,376                             | 46,776              | 2,092,264               | 405,015  | 5,569,174                                   | 1,321,137 |
| 2001                                   | 2,716,761                 | 2,810,014                       | 1,032,076                             | 239,333             | 1,288,723                             | 46,930              | 2,099,106               | 406,219  | 6,393,264                                   | 1,330,966 |
| 2002                                   | 2,741,292                 | 2,813,307                       | 1,035,440                             | 240,242             | 1,293,682                             | 47,103              | 2,105,556               | 407,493  | 7,573,077                                   | 1,336,562 |
| 2003                                   | 2,751,299                 | 2,820,949                       | 1,038,199                             | 240,913             | 1,297,179                             | 47,248              | 2,110,477               | 408,685  | 8,152,654                                   | 1,344,008 |
| 2004                                   | 2,748,722                 | 2,820,865                       | 1,093,626                             | 241,040             | 1,297,550                             | 47,200              | 2,111,206               | 408,384  | 8,388,121                                   | 1,345,632 |
| 2005                                   | 2,752,703                 | 2,824,284                       | 6,707,107                             | 241,377             | 2,057,675                             | 47,268              | 2,114,327               | 408,958  | 8,518,216                                   | 1,347,956 |
| 2006                                   | 2,764,466                 | 2,833,719                       | 6,773,611                             | 242,113             | 2,070,370                             | 47,466              | 2,120,927               | 410,639  | 8,579,145                                   | 1,351,712 |
| 2007                                   | 2,785,613                 | 2,859,037                       | 6,902,884                             | 243,657             | 2,094,414                             | 47,807              | 2,133,406               | 413,754  | 8,705,986                                   | 1,358,674 |
| 2008                                   | 2,802,414                 | 2,877,549                       | 7,027,391                             | 245,045             | 2,116,908                             | 48,092              | 2,143,741               | 416,226  | 8,841,463                                   | 1,365,505 |
| 2009                                   | 2,810,888                 | 2,892,461                       | 7,117,451                             | 248,896             | 2,135,516                             | 48,239              | 2,149,069               | 417,379  | 9,058,125                                   | 1,382,147 |
| 2010                                   | 2,850,851                 | 2,928,877                       | 7,500,017                             | 252,884             | 2,234,560                             | 48,889              | 2,214,369               | 423,244  | 9,373,846                                   | 1,400,093 |
| 2011                                   | 2,896,448                 | 2,965,146                       | 7,674,292                             | 257,120             | 2,278,480                             | 49,618              | 2,249,177               | 429,863  | 9,742,315                                   | 1,419,364 |
| 2012                                   | 2,920,624                 | 2,985,795                       | 7,820,931                             | 261,163             | 2,322,349                             | 49,996              | 2,285,997               | 433,228  | 10,187,990                                  | 1,438,953 |
| 2013                                   | 2,900,050                 | 2,995,417                       | 7,998,748                             | 266,983             | 2,366,863                             | 50,237              | 2,334,364               | 435,040  | 10,993,040                                  | 1,455,211 |
| 2014                                   | 2,924,712                 | 2,980,301                       | 8,303,478                             | 267,781             | 2,430,519                             | 49,762              | 2,342,346               | 431,032  | 13,462,514                                  | 1,474,495 |
| 2015                                   | 2,916,495                 | 3,002,025                       | 8,752,256                             | 269,561             | 2,499,175                             | 49,690              | 2,368,770               | 430,148  | 13,509,735                                  | 1,487,525 |
| 2016                                   | 2,849,374                 | 2,974,088                       | 9,643,833                             | 266,173             | 2,599,828                             | 48,594              | 2,333,841               | 420,865  | 13,482,764                                  | 1,480,399 |
| 2017                                   | 2,658,766                 | 2,854,467                       | 10,038,279                            | 265,629             | 2,594,972                             | 45,359              | 2,236,325               | 394,606  | 13,310,031                                  | 1,433,911 |
| 2018                                   | 2,397,061                 | 2,566,865                       | 10,133,815                            | 241,450             | 2,522,413                             | 40,862              | 2,087,384               | 357,383  | 13,013,532                                  | 1,354,957 |
| 2019                                   | 2,082,591                 | 2,270,824                       | 10,556,944                            | 222,700             | 2,472,100                             | 35,394              | 1,894,254               | 311,276  | 12,606,966                                  | 1,246,835 |
| 2020                                   | 1,773,556                 | 2,040,114                       | 10,449,323                            | 195,205             | 2,323,637                             | 29,216              | 1,716,909               | 260,344  | 12,051,920                                  | 1,105,777 |
| 2021                                   | 1,504,538                 | 1,793,035                       | 9,777,100                             | 159,791             | 2,071,626                             | 23,798              | 1,463,960               | 216,954  | 11,349,298                                  | 929,706   |
| 2022                                   | 1,366,025                 | 1,633,500                       | 8,869,161                             | 142,547             | 1,864,701                             | 21,337              | 1,327,523               | 196,104  | 10,934,877                                  | 828,501   |
| 2023                                   | 1,314,011                 | 1,625,775                       | 8,165,401                             | 137,858             | 1,743,433                             | 20,362              | 1,282,126               | 188,068  | 10,797,817                                  | 792,954   |
| 2024                                   | 1,295,033                 | 1,566,901                       | 8,048,833                             | 133,670             | 1,715,215                             | 20,041              | 1,265,591               | 185,256  | 10,708,151                                  | 772,400   |
| 2025                                   | 1,270,507                 | 1,549,037                       | 7,933,580                             | 129,896             | 1,679,366                             | 19,626              | 1,233,820               | 181,681  | 10,625,777                                  | 750,707   |
| 2026                                   | 1,256,628                 | 1,530,789                       | 7,829,711                             | 127,205             | 1,650,253                             | 19,374              | 1,211,104               | 179,661  | 10,547,667                                  | 729,932   |
| 2027                                   | 1,243,773                 | 1,512,278                       | 7,753,359                             | 125,309             | 1,629,268                             | 19,158              | 1,194,665               | 177,849  | 10,498,658                                  | 716,899   |
| 2028                                   | 1,233,068                 | 1,484,442                       | 7,716,141                             | 123,992             | 1,617,109                             | 18,966              | 1,183,804               | 176,332  | 10,468,536                                  | 708,978   |
| 2029                                   | 1,217,033                 | 1,446,129                       | 7,683,812                             | 122,860             | 1,606,554                             | 18,700              | 1,173,419               | 174,120  | 10,446,687                                  | 703,285   |
| 2030                                   | 1,198,064                 | 1,368,915                       | 7,657,225                             | 121,750             | 1,596,522                             | 18,396              | 1,162,519               | 171,606  | 10,426,134                                  | 697,764   |
| 2031                                   | 1,099,049                 | 1,225,862                       | 7,518,614                             | 115,987             | 1,544,134                             | 16,744              | 1,100,523               | 157,444  | 10,322,198                                  | 669,850   |
| 2032                                   | 1,107,579                 | 1,174,357                       | 7,531,416                             | 116,438             | 1,549,825                             | 16,875              | 1,111,751               | 159,076  | 10,329,525                                  | 672,069   |
| 2033                                   | 1,024,798                 | 1,101,806                       | 7,449,886                             | 112,419             | 1,515,434                             | 15,539              | 1,074,340               | 148,411  | 10,257,133                                  | 652,294   |
| 2034                                   | 915,157                   | 1,059,569                       | 7,337,330                             | 106,528             | 1,469,299                             | 13,772              | 1,026,262               | 134,421  | 10,148,839                                  | 622,670   |
| 2035                                   | 834,712                   | 1,037,848                       | 7,253,404                             | 102,194             | 1,434,862                             | 12,383              | 992,579                 | 124,524  | 10,070,069                                  | 601,105   |
| TOTAL                                  | 142,132,522               | 122,                            |                                       |                     |                                       |                     |                         |  |   |           |

**TABLE B-15 Capital Cost Component of Transportation Charge for Each Contractor <sup>a b c</sup>**

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |                      | FEATHER RIVER AREA |                 |                      |                | South Bay Area Future Contractor | GRAND TOTAL          |
|---------------|--------------------------------------|--|--|----------------------|--------------------|-----------------|----------------------|----------------|----------------------------------|----------------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total                | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total          |                                  |                      |
|               | [31]                                 | [32]   | [33]   | [34]                 | [35]               | [36]            | [37]                 | [38]           | [39]                             | [40]                 |
| 1961          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0              | 0                                | 0                    |
| 1962          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0              | 0                                | 0                    |
| 1963          | 0                                    | 690,812  | 0  | 777,678              | 0                  | 0               | 0                    | 0              | 0                                | 1,401,957            |
| 1964          | 21,735                               | 1,260,513  | 9,378  | 1,603,161            | 0                  | 0               | 0                    | 0              | 0                                | 2,551,416            |
| 1965          | 21,866                               | 2,180,589  | 17,766                                       | 2,720,401            | 0                  | 0               | 405                  | 405            | 0                                | 4,293,872            |
| 1966          | 37,964                               | 3,900,172  | 33,426                                       | 4,868,023            | 0                  | 0               | 565                  | 565            | 0                                | 6,808,355            |
| 1967          | 71,283                               | 7,693,703  | 68,155                                       | 9,563,529            | 0                  | 0               | 562                  | 562            | 0                                | 11,974,135           |
| 1968          | 120,094                              | 14,345,147   | 133,299                                      | 17,534,105           | 0                  | 0               | 564                  | 564            | 0                                | 21,170,040           |
| 1969          | 187,059                              | 21,857,456   | 202,599                                      | 26,670,225           | 0                  | 0               | 3,191                | 3,191          | 0                                | 31,352,065           |
| 1970          | 275,010                              | 28,992,595   | 257,859                                      | 35,656,010           | 0                  | 0               | 15,121               | 15,121         | 0                                | 40,621,833           |
| 1971          | 385,025                              | 37,242,413   | 316,307                                      | 46,004,783           | 0                  | 0               | 15,947               | 15,947         | 0                                | 51,396,761           |
| 1972          | 448,055                              | 44,062,125   | 353,935                                      | 54,012,583           | 0                  | 0               | 17,332               | 17,332         | 0                                | 60,563,434           |
| 1973          | 470,185                              | 46,299,581   | 357,342                                      | 56,619,537           | 0                  | 0               | 17,333               | 17,333         | 0                                | 63,176,340           |
| 1974          | 483,259                              | 48,322,678   | 372,112                                      | 58,892,336           | 0                  | 0               | 17,334               | 17,334         | 0                                | 65,975,854           |
| 1975          | 496,722                              | 49,285,084   | 376,511                                      | 60,091,511           | 0                  | 0               | 17,337               | 17,337         | 0                                | 67,859,198           |
| 1976          | 509,650                              | 50,137,295   | 380,788                                      | 61,140,760           | 0                  | 0               | 17,338               | 17,338         | 0                                | 69,000,454           |
| 1977          | 517,741                              | 50,827,166   | 385,097                                      | 61,970,690           | 0                  | 0               | 17,340               | 17,340         | 0                                | 70,180,788           |
| 1978          | 522,656                              | 51,426,581   | 390,742                                      | 62,675,723           | 0                  | 0               | 17,342               | 17,342         | 0                                | 71,392,562           |
| 1979          | 526,178                              | 52,230,344   | 399,649                                      | 63,585,177           | 0                  | 0               | 17,344               | 17,344         | 0                                | 72,841,961           |
| 1980          | 529,583                              | 53,637,412   | 417,136                                      | 65,133,031           | 0                  | 0               | 17,345               | 17,345         | 0                                | 74,888,560           |
| 1981          | 546,787                              | 56,667,437   | 449,812                                      | 68,676,673           | 0                  | 0               | 17,346               | 17,346         | 0                                | 79,055,247           |
| 1982          | 545,445                              | 57,465,063   | 461,234                                      | 69,478,655           | 0                  | 0               | 17,348               | 17,348         | 0                                | 80,345,261           |
| 1983          | 557,607                              | 59,037,472   | 477,333                                      | 71,393,356           | 0                  | 0               | 17,348               | 17,348         | 0                                | 82,479,198           |
| 1984          | 575,830                              | 60,313,580   | 486,863                                      | 73,091,656           | 0                  | 0               | 17,349               | 17,349         | 0                                | 84,992,959           |
| 1985          | 589,089                              | 61,144,629   | 492,117                                      | 74,227,730           | 0                  | 0               | 17,351               | 17,351         | 0                                | 86,824,262           |
| 1986          | 598,648                              | 61,666,346   | 494,977                                      | 74,962,798           | 0                  | 0               | 17,352               | 17,352         | 0                                | 88,675,565           |
| 1987          | 607,664                              | 62,094,710   | 496,758                                      | 75,575,985           | 0                  | 0               | 17,354               | 17,354         | 0                                | 91,544,751           |
| 1988          | 614,418                              | 62,452,912   | 498,619                                      | 76,064,714           | 0                  | 0               | 17,355               | 17,355         | 0                                | 93,646,292           |
| 1989          | 618,059                              | 62,796,236   | 501,579                                      | 76,486,030           | 0                  | 0               | 17,358               | 17,358         | 0                                | 94,874,744           |
| 1990          | 629,934                              | 63,762,459   | 509,566                                      | 77,744,640           | 0                  | 0               | 17,360               | 17,360         | 0                                | 96,617,389           |
| 1991          | 643,118                              | 64,677,355   | 516,147                                      | 78,930,732           | 0                  | 0               | 17,364               | 17,364         | 0                                | 98,196,820           |
| 1992          | 660,626                              | 65,776,353   | 523,154                                      | 80,358,214           | 0                  | 0               | 17,367               | 17,367         | 0                                | 99,929,612           |
| 1993          | 679,343                              | 66,905,041   | 529,383                                      | 81,787,340           | 0                  | 0               | 17,369               | 17,369         | 0                                | 101,634,451          |
| 1994          | 714,062                              | 68,486,622   | 535,055                                      | 83,792,916           | 0                  | 0               | 17,370               | 17,370         | 0                                | 104,408,263          |
| 1995          | 735,431                              | 69,373,540   | 537,812                                      | 84,941,984           | 0                  | 0               | 17,371               | 17,371         | 0                                | 108,336,101          |
| 1996          | 753,512                              | 70,251,056   | 541,753                                      | 86,062,060           | 0                  | 0               | 17,371               | 17,371         | 0                                | 118,300,162          |
| 1997          | 812,976                              | 71,530,953   | 544,467                                      | 87,744,015           | 0                  | 0               | 17,371               | 17,371         | 0                                | 128,569,847          |
| 1998          | 919,464                              | 72,283,436   | 548,490                                      | 89,376,405           | 0                  | 0               | 0                    | 0              | 0                                | 132,279,938          |
| 1999          | 1,100,324                            | 72,917,423   | 552,184                                      | 90,465,830           | 0                  | 0               | 0                    | 0              | 0                                | 134,031,259          |
| 2000          | 1,434,718                            | 73,432,162   | 555,279                                      | 92,918,575           | 0                  | 0               | 0                    | 0              | 0                                | 136,634,542          |
| 2001          | 2,371,146                            | 73,741,965   | 556,658                                      | 95,033,160           | 0                  | 0               | 0                    | 0              | 0                                | 139,615,312          |
| 2002          | 3,744,046                            | 73,915,736   | 557,417                                      | 97,810,953           | 0                  | 0               | 0                    | 0              | 0                                | 142,554,234          |
| 2003          | 4,400,394                            | 74,227,711   | 559,468                                      | 99,399,183           | 0                  | 0               | 17,375               | 17,375         | 0                                | 144,698,695          |
| 2004          | 4,668,372                            | 74,463,765   | 559,218                                      | 100,193,702          | 0                  | 0               | 17,375               | 17,375         | 0                                | 145,918,744          |
| 2005          | 4,807,001                            | 68,352,994   | 560,019                                      | 100,739,885          | 0                  | 0               | 17,375               | 17,375         | 0                                | 146,787,909          |
| 2006          | 4,856,806                            | 68,688,724   | 562,234                                      | 101,301,934          | 0                  | 0               | 17,375               | 17,375         | 0                                | 147,502,280          |
| 2007          | 4,969,557                            | 69,409,634   | 567,777                                      | 102,492,199          | 0                  | 0               | 17,376               | 17,376         | 0                                | 148,974,757          |
| 2008          | 5,104,050                            | 70,015,898   | 571,889                                      | 103,576,170          | 0                  | 0               | 17,376               | 17,376         | 0                                | 150,520,284          |
| 2009          | 5,285,597                            | 70,658,679   | 575,511                                      | 104,779,957          | 0                  | 0               | 17,376               | 17,376         | 0                                | 152,727,170          |
| 2010          | 5,566,492                            | 71,884,880   | 583,594                                      | 107,262,595          | 0                  | 0               | 17,377               | 17,377         | 0                                | 155,928,829          |
| 2011          | 5,923,599                            | 72,928,452   | 590,838                                      | 109,404,711          | 0                  | 0               | 17,377               | 17,377         | 0                                | 159,611,267          |
| 2012          | 6,372,403                            | 73,646,192   | 594,531                                      | 111,320,155          | 0                  | 0               | 17,377               | 17,377         | 0                                | 162,917,094          |
| 2013          | 7,256,162                            | 73,904,889   | 596,705                                      | 113,553,709          | 0                  | 0               | 17,377               | 17,377         | 0                                | 165,398,047          |
| 2014          | 10,089,166                           | 74,709,956   | 592,108                                      | 120,058,169          | 0                  | 0               | 17,377               | 17,377         | 0                                | 172,134,659          |
| 2015          | 10,097,637                           | 75,610,681   | 591,051                                      | 121,584,749          | 0                  | 0               | 16,972               | 16,972         | 0                                | 174,020,505          |
| 2016          | 10,093,789                           | 76,556,152   | 581,338                                      | 123,331,038          | 0                  | 0               | 16,813               | 16,813         | 0                                | 175,595,249          |
| 2017          | 10,065,481                           | 74,511,799   | 549,982                                      | 120,950,506          | 0                  | 0               | 16,815               | 16,815         | 0                                | 172,808,347          |
| 2018          | 10,016,669                           | 68,992,891   | 484,839                                      | 114,210,122          | 0                  | 0               | 16,813               | 16,813         | 0                                | 165,408,509          |
| 2019          | 9,949,704                            | 63,592,695   | 415,539                                      | 107,657,823          | 0                  | 0               | 14,186               | 14,186         | 0                                | 158,439,811          |
| 2020          | 9,861,753                            | 57,796,529   | 360,278                                      | 99,964,562           | 0                  | 0               | 2,256                | 2,256          | 0                                | 150,571,513          |
| 2021          | 9,751,738                            | 50,146,202   | 301,831                                      | 89,489,577           | 0                  | 0               | 1,430                | 1,430          | 0                                | 140,044,769          |
| 2022          | 9,688,708                            | 44,270,808   | 264,202                                      | 81,407,994           | 0                  | 0               | 45                   | 45             | 0                                | 131,937,319          |
| 2023          | 9,666,579                            | 42,803,834   | 260,796                                      | 78,799,015           | 0                  | 0               | 44                   | 44             | 0                                | 129,279,961          |
| 2024          | 9,653,505                            | 40,900,322   | 246,025                                      | 76,510,944           | 0                  | 0               | 43                   | 43             | 0                                | 126,976,565          |
| 2025          | 9,640,041                            | 40,049,422   | 241,627                                      | 75,305,087           | 0                  | 0               | 41                   | 41             | 0                                | 125,742,751          |
| 2026          | 9,627,113                            | 39,301,697   | 237,350                                      | 74,248,486           | 0                  | 0               | 39                   | 39             | 0                                | 124,665,431          |
| 2027          | 9,619,023                            | 38,688,722   | 233,040                                      | 73,412,001           | 0                  | 0               | 37                   | 37             | 0                                | 123,798,752          |
| 2028          | 9,614,107                            | 38,125,032   | 227,395                                      | 72,697,905           | 0                  | 0               | 35                   | 35             | 0                                | 123,039,968          |
| 2029          | 9,610,585                            | 37,351,521   | 218,489                                      | 71,773,194           | 0                  | 0               | 33                   | 33             | 0                                | 122,078,727          |
| 2030          | 9,607,181                            | 35,967,966   | 201,002                                      | 70,195,043           | 0                  | 0               | 32                   | 32             | 0                                | 120,450,929          |
| 2031          | 9,589,976                            | 33,056,260   | 168,326                                      | 66,584,965           | 0                  | 0               | 31                   | 31             | 0                                | 116,721,871          |
| 2032          | 9,591,319                            | 32,251,667   | 156,904                                      | 65,768,800           | 0                  | 0               | 29                   | 29             | 0                                | 115,888,862          |
| 2033          | 9,579,157                            | 30,749,554   | 140,805                                      | 63,821,575           | 0                  | 0               | 29                   | 29             | 0                                | 113,856,492          |
| 2034          | 9,560,933                            | 29,572,552   | 131,275                                      | 62,098,606           | 0                  | 0               | 28                   | 28             | 0                                | 111,933,055          |
| 2035          | 9,547,675                            | 28,817,291   | 126,021                                      | 60,954,667           | 0                  | 0               | 26                   | 26             | 0                                | 110,438,421          |
| <b>TOTAL</b>  | <b>299,808,588</b>                   | <b>3,857,089,525</b>                                   | <b>28,890,765</b>                            | <b>5,521,292,711</b> | <b>0</b>           | <b>0</b>        | <b>781,795</b>       | <b>781,795</b> | <b>0</b>                         | <b>7,797,813,336</b> |

(a) Unadjusted for prior overpayments or underpayments of charges.

(b) Determined at the current Project Interest Rate of 4.610 percent per annum.

(c) Reflects the transfers of permanent aqueduct capacity among contractors.

**TABLE B-16A Minimum OMP&R Component of Transportation Charge for Each Contractor**

(in dollars)

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                  |             | SOUTH BAY AREA                |                               |                                   |             | CENTRAL COASTAL AREA          |                             |             |
|---------------|--------------------|------------------|-------------|-------------------------------|-------------------------------|-----------------------------------|-------------|-------------------------------|-----------------------------|-------------|
|               | Napa County FC&WCD | Solano County WA | Total       | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total       | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total       |
| 1961          | [1]                | [2]              | [3]         | [4]                           | [5]                           | [6]                               | [7]         | [8]                           | [9]                         | [10]        |
| 1962          | 0                  | 0                | 0           | 0                             | 8,686                         | 21,132                            | 0           | 0                             | 0                           | 0           |
| 1963          | 0                  | 0                | 0           | 38,048                        | 34,788                        | 82,896                            | 155,732     | 0                             | 0                           | 0           |
| 1964          | 0                  | 0                | 0           | 41,148                        | 38,323                        | 91,320                            | 170,791     | 0                             | 0                           | 0           |
| 1965          | 0                  | 0                | 0           | 78,529                        | 75,616                        | 195,793                           | 349,937     | 0                             | 0                           | 0           |
| 1966          | 0                  | 0                | 0           | 79,753                        | 78,779                        | 218,543                           | 377,076     | 0                             | 0                           | 0           |
| 1967          | 0                  | 0                | 0           | 127,896                       | 123,667                       | 335,224                           | 586,787     | 0                             | 0                           | 0           |
| 1968          | 130                | 0                | 130         | 126,058                       | 120,563                       | 333,506                           | 580,128     | 11,800                        | 21,770                      | 33,571      |
| 1969          | 80,875             | 0                | 80,875      | 145,411                       | 138,050                       | 372,585                           | 656,046     | 63,113                        | 116,435                     | 179,548     |
| 1970          | 94,872             | 0                | 94,872      | 128,993                       | 120,245                       | 320,664                           | 569,902     | 74,187                        | 136,867                     | 211,054     |
| 1971          | 45,579             | 0                | 45,579      | 113,071                       | 108,346                       | 296,004                           | 517,421     | 74,011                        | 136,541                     | 210,552     |
| 1972          | 37,895             | 0                | 37,895      | 122,407                       | 117,483                       | 334,366                           | 574,256     | 79,196                        | 146,107                     | 225,303     |
| 1973          | 32,993             | 0                | 32,993      | 122,738                       | 116,785                       | 325,726                           | 565,250     | 75,714                        | 139,683                     | 215,398     |
| 1974          | 46,498             | 0                | 46,498      | 154,435                       | 146,929                       | 403,080                           | 704,444     | 76,530                        | 141,189                     | 217,719     |
| 1975          | 37,707             | 0                | 37,707      | 189,175                       | 182,087                       | 513,823                           | 885,086     | 92,605                        | 170,845                     | 263,450     |
| 1976          | 60,786             | 0                | 60,786      | 203,064                       | 193,435                       | 524,813                           | 921,312     | 94,935                        | 175,144                     | 270,079     |
| 1977          | 78,400             | 0                | 78,400      | 179,869                       | 169,065                       | 500,101                           | 849,035     | 102,945                       | 189,922                     | 292,867     |
| 1978          | 56,318             | 0                | 56,318      | 239,301                       | 228,855                       | 647,828                           | 1,115,984   | 104,060                       | 191,978                     | 296,038     |
| 1979          | 73,852             | 0                | 73,852      | 236,986                       | 232,105                       | 666,742                           | 1,135,833   | 100,748                       | 185,868                     | 286,617     |
| 1980          | 81,769             | 0                | 81,769      | 389,575                       | 372,185                       | 1,010,830                         | 1,772,591   | 126,328                       | 233,105                     | 359,433     |
| 1981          | 101,340            | 0                | 101,340     | 317,408                       | 302,272                       | 834,257                           | 1,453,937   | 140,208                       | 258,712                     | 398,920     |
| 1982          | 191,987            | 0                | 191,987     | 386,742                       | 369,633                       | 1,098,844                         | 1,855,219   | 142,045                       | 262,101                     | 404,146     |
| 1983          | 80,215             | 0                | 80,215      | 438,536                       | 428,973                       | 1,269,373                         | 2,136,882   | 171,001                       | 315,523                     | 486,524     |
| 1984          | 106,485            | 0                | 106,485     | 591,243                       | 565,721                       | 1,817,629                         | 2,974,593   | 201,768                       | 372,284                     | 574,052     |
| 1985          | 215,341            | 0                | 215,341     | 674,975                       | 655,490                       | 1,840,211                         | 3,170,677   | 242,935                       | 448,233                     | 691,167     |
| 1986          | 203,704            | 0                | 203,704     | 613,273                       | 583,077                       | 1,784,056                         | 2,980,407   | 233,000                       | 429,904                     | 662,905     |
| 1987          | 295,505            | 0                | 295,505     | 687,629                       | 652,468                       | 2,000,817                         | 3,340,914   | 230,484                       | 463,838                     | 694,322     |
| 1988          | 312,677            | (58)             | 312,619     | 676,847                       | 655,274                       | 1,910,092                         | 3,242,213   | 258,807                       | 561,030                     | 819,837     |
| 1989          | 403,330            | 688,185          | 1,091,515   | 716,831                       | 712,354                       | 1,897,149                         | 3,326,335   | 244,772                       | 668,476                     | 913,248     |
| 1990          | 658,942            | 674,944          | 1,333,886   | 782,589                       | 780,305                       | 2,129,966                         | 3,692,860   | 310,222                       | 677,025                     | 987,247     |
| 1991          | 726,717            | 860,903          | 1,587,620   | 543,178                       | 524,741                       | 1,520,569                         | 2,588,488   | 302,369                       | 673,858                     | 976,227     |
| 1992          | 483,580            | 712,313          | 1,195,893   | 796,058                       | 855,050                       | 2,253,496                         | 3,904,605   | 346,220                       | 736,477                     | 1,082,698   |
| 1993          | 524,000            | 708,129          | 1,232,129   | 1,280,736                     | 1,261,431                     | 3,338,742                         | 5,880,908   | 386,060                       | 734,138                     | 1,120,197   |
| 1994          | 573,814            | 658,274          | 1,232,087   | 1,368,665                     | 1,312,746                     | 3,560,310                         | 6,241,720   | 481,022                       | 888,287                     | 1,369,309   |
| 1995          | 539,407            | 660,770          | 1,200,177   | 1,232,272                     | 1,187,201                     | 3,216,470                         | 5,635,943   | 477,929                       | 881,323                     | 1,359,251   |
| 1996          | 604,992            | 1,011,298        | 1,616,291   | 1,185,220                     | 1,124,968                     | 3,007,330                         | 5,317,518   | 649,161                       | 1,197,179                   | 1,846,340   |
| 1997          | 563,579            | 741,881          | 1,305,460   | 1,029,670                     | 968,999                       | 2,667,649                         | 4,666,319   | 406,652                       | 749,805                     | 1,156,456   |
| 1998          | 461,844            | 661,193          | 1,123,037   | 1,064,729                     | 1,174,897                     | 3,502,733                         | 5,742,360   | 810,087                       | 3,051,492                   | 3,861,579   |
| 1999          | 613,368            | 1,006,577        | 1,619,945   | 1,243,942                     | 1,285,417                     | 5,135,770                         | 7,665,129   | 795,894                       | 3,101,531                   | 3,897,425   |
| 2000          | 775,742            | 1,492,734        | 2,268,475   | 2,173,249                     | 1,294,794                     | 3,752,323                         | 7,220,366   | 702,795                       | 3,169,914                   | 3,872,709   |
| 2001          | 652,272            | 1,445,084        | 2,097,356   | 4,193,895                     | 1,037,838                     | 3,543,834                         | 8,775,567   | 725,531                       | 2,956,531                   | 3,682,063   |
| 2002          | 1,096,983          | 1,871,225        | 2,968,209   | 8,256,079                     | 1,355,833                     | 6,054,691                         | 15,666,603  | 758,301                       | 3,357,079                   | 4,115,381   |
| 2003          | 1,170,339          | 2,249,637        | 3,419,975   | 4,904,523                     | 1,058,421                     | 3,551,378                         | 9,514,322   | 807,368                       | 3,515,450                   | 4,322,808   |
| 2004          | 1,619,993          | 2,348,074        | 3,968,067   | 2,578,572                     | 1,278,531                     | 3,533,247                         | 7,390,350   | 804,309                       | 3,449,944                   | 4,254,253   |
| 2005          | 918,160            | 1,798,219        | 2,716,379   | 2,397,132                     | 1,132,137                     | 2,954,257                         | 6,483,526   | 856,064                       | 3,807,031                   | 4,663,096   |
| 2006          | 844,277            | 1,417,680        | 2,261,957   | 2,473,364                     | 1,198,790                     | 3,267,321                         | 6,939,475   | 759,044                       | 3,769,943                   | 4,528,987   |
| 2007          | 811,448            | 1,545,604        | 2,357,052   | 3,239,357                     | 1,578,771                     | 4,042,498                         | 8,860,626   | 837,847                       | 3,694,944                   | 4,532,791   |
| 2008          | 1,100,201          | 1,469,773        | 2,569,974   | 3,652,890                     | 1,782,721                     | 4,540,690                         | 9,976,302   | 1,260,876                     | 5,454,843                   | 6,715,719   |
| 2009          | 1,147,923          | 1,811,973        | 2,959,897   | 3,259,124                     | 1,479,023                     | 4,197,881                         | 8,936,028   | 1,090,302                     | 4,586,773                   | 5,677,075   |
| 2010          | 1,237,627          | 3,226,898        | 4,464,526   | 3,173,830                     | 1,558,108                     | 4,301,598                         | 9,033,536   | 1,426,813                     | 6,348,229                   | 7,775,042   |
| 2011          | 1,592,590          | 3,641,509        | 5,234,099   | 3,522,095                     | 1,703,913                     | 4,563,768                         | 9,789,777   | 1,457,071                     | 6,657,397                   | 8,114,468   |
| 2012          | 2,027,809          | 3,410,169        | 5,437,978   | 3,730,922                     | 1,786,985                     | 6,801,134                         | 12,319,041  | 1,465,008                     | 7,409,045                   | 8,874,054   |
| 2013          | 1,516,336          | 3,056,946        | 4,573,282   | 4,308,652                     | 2,023,320                     | 6,048,937                         | 12,380,910  | 1,835,773                     | 9,750,934                   | 11,586,707  |
| 2014          | 1,970,448          | 4,113,687        | 6,084,134   | 4,606,555                     | 2,111,413                     | 6,133,672                         | 12,851,639  | 2,141,944                     | 9,803,068                   | 11,945,012  |
| 2015          | 2,086,057          | 4,327,087        | 6,413,144   | 5,075,009                     | 2,391,487                     | 8,445,075                         | 15,911,571  | 1,916,840                     | 9,313,790                   | 11,230,630  |
| 2016          | 2,080,705          | 4,287,649        | 6,368,354   | 5,217,757                     | 2,474,365                     | 9,213,944                         | 16,906,067  | 1,977,919                     | 9,688,236                   | 11,666,155  |
| 2017          | 2,038,295          | 4,239,334        | 6,277,629   | 4,938,612                     | 2,308,644                     | 7,914,091                         | 15,161,348  | 2,008,328                     | 9,653,997                   | 11,662,325  |
| 2018          | 2,058,679          | 4,281,729        | 6,340,407   | 4,987,998                     | 2,331,731                     | 7,993,231                         | 15,312,960  | 2,028,411                     | 9,750,536                   | 11,778,948  |
| 2019          | 2,079,266          | 4,324,546        | 6,403,812   | 5,037,878                     | 2,355,048                     | 8,073,163                         | 15,466,089  | 2,048,695                     | 9,848,042                   | 11,896,737  |
| 2020          | 2,100,055          | 4,367,786        | 6,467,841   | 5,088,234                     | 2,378,598                     | 8,153,895                         | 15,620,727  | 2,069,182                     | 9,946,522                   | 12,015,704  |
| 2021          | 2,121,056          | 4,411,464        | 6,532,520   | 5,139,115                     | 2,402,384                     | 8,235,434                         | 15,776,934  | 2,089,874                     | 10,045,987                  | 12,135,862  |
| 2022          | 2,142,267          | 4,455,579        | 6,597,846   | 5,190,506                     | 2,426,408                     | 8,317,788                         | 15,934,702  | 2,110,773                     | 10,146,447                  | 12,257,220  |
| 2023          | 2,163,689          | 4,500,134        | 6,663,823   | 5,242,411                     | 2,450,672                     | 8,400,966                         | 16,094,050  | 2,131,881                     | 10,247,911                  | 12,379,792  |
| 2024          | 2,185,326          | 4,545,137        | 6,730,463   | 5,294,835                     | 2,475,178                     | 8,484,975                         | 16,254,989  | 2,153,199                     | 10,350,391                  | 12,503,590  |
| 2025          | 2,207,180          | 4,590,587        | 6,797,767   | 5,347,784                     | 2,499,930                     | 8,569,826                         | 16,417,541  | 2,174,732                     | 10,453,895                  | 12,628,626  |
| 2026          | 2,229,251          | 4,636,493        | 6,865,744   | 5,401,262                     | 2,524,930                     | 8,655,524                         | 16,581,715  | 2,196,479                     | 10,558,434                  | 12,754,912  |
| 2027          | 2,251,544          | 4,682,858        | 6,934,401   | 5,455,274                     | 2,550,179                     | 8,742,078                         | 16,747,532  | 2,218,444                     | 10,664,018                  | 12,882,462  |
| 2028          | 2,274,059          | 4,729,687        | 7,003,746   | 5,509,827                     | 2,575,681                     | 8,829,501                         | 16,915,009  | 2,240,628                     | 10,770,658                  | 13,011,286  |
| 2029          | 2,296,800          | 4,776,983        | 7,073,783   | 5,564,926                     | 2,601,438                     | 8,917,796                         | 17,084,159  | 2,263,034                     | 10,878,365                  | 13,141,399  |
| 2030          | 2,319,767          | 4,824,753        | 7,144,520   | 5,620,575                     | 2,627,452                     | 9,006,973                         | 17,255,000  | 2,285,665                     | 10,987,148                  | 13,272,813  |
| 2031          | 2,342,966          | 4,873,000        | 7,215,966   | 5,676,780                     | 2,653,727                     | 9,097,043                         | 17,427,550  | 2,308,521                     | 11,097,020                  | 13,405,541  |
| 2032          | 2,366,395          | 4,921,731        | 7,288,125   | 5,733,549                     | 2,680,264                     | 9,188,013                         | 17,601,825  | 2,331,607                     | 11,207,990                  | 13,539,596  |
| 2033          | 2,390,059          | 4,970,948        | 7,361,007   | 5,790,884                     | 2,707,066                     | 9,279,894                         | 17,777,845  | 2,354,923                     | 11,320,070                  | 13,674,993  |
| 2034          | 2,413,959          | 5,020,657        | 7,434,617   | 5,848,793                     | 2,734,137                     | 9,372,693                         | 17,955,622  | 2,378,472                     | 11,433,270                  | 13,811,742  |
| 2035          | 2,438,099          | 5,070,864        | 7,508,963   | 5,907,281                     | 2,761,478                     | 9,466,419                         | 18,135,178  | 2,402,257                     | 11,547,604                  | 13,949,860  |
| TOTAL         | 73,456,124         | 140,122,627      | 213,578,750 | 187,896,234                   | 93,298,587                    | 301,625,993                       | 582,820,814 | 70,525,708                    | 316,098,129                 | 386,623,837 |

**TABLE B-16A Minimum OMP&R Component of Transportation Charge for Each Contractor**

(in dollars)

Sheet 2 of 4

| Calendar<br>Year | SAN JOAQUIN VALLEY AREA              |   |   |                          |             |                       |                               |   | Total         |
|------------------|--------------------------------------|---|---|--------------------------|-------------|-----------------------|-------------------------------|---|---------------|
|                  | Dudley<br>Ridge<br>Water<br>District | Empire<br>West Side<br>Irrigation<br>District | Future<br>Contractor<br>San Joaquin<br>Valley | Kern County Water Agency |             | County<br>of<br>Kings | Oak Flat<br>Water<br>District | Tulare Lake<br>Basin<br>Water Storage<br>District |               |
|                  | [11]                                 | [12]  | [13]  | [14]                     | [15]        | [16]                  | [17]                          | [18]  | [19]          |
| 1961             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1962             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1963             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1964             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1965             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1966             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1967             | 0                                    | 0   | 0   | 0                        | 0           | 0                     | 0                             | 0   | 0             |
| 1968             | 37,806                               | 1,963   | 5,639   | 60,701                   | 678,086     | 2,008                 | 2,073                         | 77,591  | 865,867       |
| 1969             | 45,479                               | 2,235   | 30,158  | 80,554                   | 1,197,126   | 2,286                 | 2,085                         | 90,773  | 1,450,698     |
| 1970             | 46,969                               | 2,292   | 35,450  | 96,673                   | 1,381,493   | 2,344                 | 2,158                         | 93,408  | 1,660,786     |
| 1971             | 47,997                               | 2,314   | 35,366  | 106,654                  | 1,643,163   | 2,366                 | 2,288                         | 94,874  | 1,935,021     |
| 1972             | 49,866                               | 2,414   | 37,844  | 122,313                  | 1,729,169   | 2,469                 | 2,254                         | 98,777  | 2,045,106     |
| 1973             | 50,006                               | 2,385   | 36,180  | 125,553                  | 1,719,873   | 2,440                 | 2,310                         | 98,330  | 2,037,076     |
| 1974             | 52,818                               | 2,556   | 36,570  | 135,661                  | 1,823,065   | 2,614                 | 2,529                         | 104,609   | 2,160,424     |
| 1975             | 66,963                               | 3,243   | 44,251  | 162,738                  | 2,235,242   | 3,317                 | 3,191                         | 132,663   | 2,651,608     |
| 1976             | 66,504                               | 3,328   | 45,364  | 159,303                  | 2,215,999   | 3,404                 | 2,919                         | 133,940   | 2,630,761     |
| 1977             | 75,595                               | 3,812   | 49,192  | 189,661                  | 2,522,290   | 3,898                 | 3,708                         | 152,838   | 3,000,994     |
| 1978             | 70,688                               | 3,503   | 49,725  | 174,897                  | 2,427,163   | 3,583                 | 3,644                         | 141,672   | 2,874,875     |
| 1979             | 68,879                               | 3,436   | 48,142  | 173,677                  | 2,378,315   | 3,514                 | 3,492                         | 138,493   | 2,817,948     |
| 1980             | 95,898                               | 4,722   | 59,551  | 235,741                  | 3,146,570   | 4,830                 | 4,777                         | 191,582   | 3,743,671     |
| 1981             | 118,448                              | 5,965   | 66,183  | 266,353                  | 3,440,557   | 6,099                 | 5,187                         | 239,323   | 4,148,116     |
| 1982             | 134,083                              | 6,711   | 67,061  | 311,879                  | 3,848,922   | 6,862                 | 6,382                         | 270,061   | 4,651,960     |
| 1983             | 184,902                              | 9,242   | 80,869  | 426,485                  | 5,030,031   | 9,450                 | 8,494                         | 372,182   | 6,121,656     |
| 1984             | 194,228                              | 9,656   | 95,555  | 471,854                  | 5,636,134   | 9,874                 | 8,719                         | 389,892   | 6,815,912     |
| 1985             | 200,694                              | 9,957   | 115,227                                       | 486,162                  | 6,042,593   | 10,182                | 8,982                         | 402,457   | 7,276,254     |
| 1986             | 207,028                              | 10,302  | 110,479                                       | 530,803                  | 6,372,710   | 10,536                | 10,341                        | 415,776   | 7,667,975     |
| 1987             | 205,002                              | 10,259  | 109,401                                       | 533,451                  | 6,378,437   | 10,493                | 10,517                        | 412,889   | 7,670,450     |
| 1988             | 203,711                              | 10,223  | 122,903                                       | 516,432                  | 6,388,497   | 10,455                | 10,341                        | 410,868   | 7,673,430     |
| 1989             | 224,049                              | 11,269  | 116,197                                       | 564,169                  | 6,747,046   | 11,526                | 11,102                        | 452,406   | 8,137,763     |
| 1990             | 271,051                              | 13,666  | 148,238                                       | 664,040                  | 8,111,616   | 13,976                | 13,206                        | 547,974   | 9,783,767     |
| 1991             | 275,748                              | 13,854  | 144,486                                       | 662,755                  | 8,111,610   | 14,168                | 13,218                        | 556,474   | 9,792,313     |
| 1992             | 317,889                              | 16,027  | 162,466                                       | 764,224                  | 9,115,453   | 16,393                | 18,209                        | 642,672   | 11,053,333    |
| 1993             | 359,879                              | 17,989  | 184,477                                       | 831,662                  | 10,372,245  | 18,399                | 19,560                        | 724,397   | 12,528,608    |
| 1994             | 309,084                              | 15,486  | 224,254                                       | 738,619                  | 9,789,833   | 15,839                | 16,434                        | 622,879   | 11,732,427    |
| 1995             | 395,441                              | 19,918  | 220,899                                       | 898,339                  | 11,190,121  | 20,373                | 21,551                        | 799,070   | 13,565,713    |
| 1996             | 362,623                              | 19,968  | 301,835                                       | 902,162                  | 11,872,821  | 20,424                | 21,664                        | 796,711   | 14,298,209    |
| 1997             | 366,476                              | 20,154  | 186,450                                       | 942,987                  | 10,558,144  | 20,613                | 19,344                        | 806,084   | 12,920,252    |
| 1998             | 453,033                              | 24,560  | 288,906                                       | 1,098,213                | 12,207,920  | 25,122                | 21,594                        | 995,194   | 15,114,543    |
| 1999             | 384,169                              | 21,168  | 275,698                                       | 980,700                  | 11,106,789  | 21,650                | 21,913                        | 844,306   | 13,656,391    |
| 2000             | 383,321                              | 21,079  | 206,873                                       | 1,019,807                | 9,928,805   | 21,559                | 22,683                        | 841,482   | 12,445,608    |
| 2001             | 463,222                              | 25,484  | 231,715                                       | 1,210,447                | 11,258,522  | 26,063                | 31,723                        | 1,017,239   | 14,264,415    |
| 2002             | 425,392                              | 21,528  | 223,874                                       | 1,078,842                | 10,216,835  | 22,018                | 25,550                        | 812,053   | 12,826,093    |
| 2003             | 494,491                              | 25,186  | 242,454                                       | 1,177,195                | 11,270,414  | 25,761                | 30,665                        | 944,127   | 14,210,293    |
| 2004             | 441,879                              | 22,625  | 244,833                                       | 1,123,550                | 10,642,168  | 61,644                | 25,373                        | 731,339   | 13,293,410    |
| 2005             | 426,992                              | 21,913  | 257,856                                       | 1,012,715                | 10,314,810  | 59,616                | 24,277                        | 707,652   | 12,825,830    |
| 2006             | 466,571                              | 23,852  | 196,995                                       | 1,114,906                | 10,382,665  | 72,011                | 26,372                        | 768,950   | 13,052,322    |
| 2007             | 528,504                              | 26,797  | 234,731                                       | 1,272,246                | 11,711,842  | 82,643                | 27,201                        | 866,563   | 14,750,528    |
| 2008             | 631,880                              | 32,568  | 370,911                                       | 1,538,520                | 15,194,026  | 102,337               | 32,798                        | 1,046,861   | 18,949,901    |
| 2009             | 516,642                              | 26,259  | 334,876                                       | 1,268,779                | 12,752,687  | 84,120                | 26,826                        | 848,413   | 15,858,602    |
| 2010             | 512,955                              | 29,802  | 410,825                                       | 1,341,249                | 13,408,724  | 96,456                | 28,634                        | 890,302   | 16,718,947    |
| 2011             | 593,356                              | 34,725  | 403,148                                       | 1,628,671                | 15,402,750  | 110,096               | 39,654                        | 1,034,984   | 19,247,383    |
| 2012             | 558,575                              | 32,539  | 364,391                                       | 1,601,786                | 15,199,164  | 102,153               | 30,694                        | 971,258   | 18,860,561    |
| 2013             | 695,004                              | 40,706  | 436,761                                       | 1,847,484                | 17,923,779  | 126,005               | 34,999                        | 1,212,949   | 22,317,688    |
| 2014             | 757,087                              | 46,079  | 615,778                                       | 2,031,447                | 21,021,452  | 147,040               | 43,576                        | 1,351,244   | 26,013,704    |
| 2015             | 839,096                              | 49,511  | 513,224                                       | 2,180,313                | 22,637,738  | 153,106               | 49,351                        | 1,453,541   | 27,875,879    |
| 2016             | 809,428                              | 47,783  | 524,681                                       | 2,123,484                | 22,259,220  | 148,754               | 47,648                        | 1,402,614   | 27,363,612    |
| 2017             | 816,931                              | 48,269  | 556,740                                       | 2,056,778                | 22,501,853  | 151,129               | 47,327                        | 1,416,491   | 27,595,518    |
| 2018             | 825,101                              | 48,752  | 562,307                                       | 2,077,346                | 22,726,871  | 152,641               | 47,800                        | 1,430,656   | 27,871,474    |
| 2019             | 833,352                              | 49,239  | 567,931                                       | 2,098,119                | 22,954,141  | 154,167               | 48,278                        | 1,444,963   | 28,150,189    |
| 2020             | 773,955                              | 49,732  | 573,611                                       | 2,118,429                | 23,178,452  | 155,710               | 48,761                        | 1,459,412   | 28,358,061    |
| 2021             | 781,694                              | 50,229  | 579,347                                       | 2,139,613                | 23,410,236  | 157,267               | 49,248                        | 1,474,006   | 28,641,641    |
| 2022             | 789,511                              | 50,731  | 585,140                                       | 2,161,009                | 23,644,339  | 158,840               | 49,741                        | 1,488,746   | 28,928,058    |
| 2023             | 797,406                              | 51,239  | 590,992                                       | 2,182,619                | 23,880,782  | 160,428               | 50,238                        | 1,503,634   | 29,217,338    |
| 2024             | 805,381                              | 51,751  | 596,901                                       | 2,204,445                | 24,119,590  | 162,032               | 50,741                        | 1,518,670   | 29,509,512    |
| 2025             | 813,434                              | 52,268  | 602,871                                       | 2,226,490                | 24,360,786  | 163,653               | 51,248                        | 1,533,857   | 29,804,607    |
| 2026             | 821,569                              | 52,791  | 608,899                                       | 2,248,755                | 24,604,394  | 165,289               | 51,761                        | 1,549,196   | 30,102,653    |
| 2027             | 829,784                              | 53,319  | 614,988                                       | 2,271,242                | 24,850,438  | 166,942               | 52,278                        | 1,564,688   | 30,403,680    |
| 2028             | 838,082                              | 53,852  | 621,138                                       | 2,293,955                | 25,098,942  | 168,611               | 52,801                        | 1,580,334   | 30,707,716    |
| 2029             | 846,463                              | 54,391  | 627,349                                       | 2,316,894                | 25,349,931  | 170,297               | 53,329                        | 1,596,138   | 31,014,793    |
| 2030             | 854,928                              | 54,935  | 633,623                                       | 2,340,063                | 25,603,431  | 172,000               | 53,862                        | 1,612,099   | 31,324,941    |
| 2031             | 863,477                              | 55,484  | 639,959                                       | 2,363,464                | 25,859,465  | 173,720               | 54,401                        | 1,628,220   | 31,638,191    |
| 2032             | 872,112                              | 56,039  | 646,359                                       | 2,387,098                | 26,118,059  | 175,458               | 54,945                        | 1,644,502   | 31,954,572    |
| 2033             | 880,833                              | 56,599  | 652,822                                       | 2,410,969                | 26,379,240  | 177,212               | 55,494                        | 1,660,947   | 32,274,118    |
| 2034             | 889,641                              | 57,165  | 659,351                                       | 2,435,079                | 26,643,033  | 178,984               | 56,049                        | 1,677,557   | 32,596,859    |
| 2035             | 898,538                              | 57,737  | 665,944                                       | 2,459,430                | 26,909,463  | 180,774               | 56,610                        | 1,694,332   | 32,922,828    |
| TOTAL            | 31,319,591                           | 1,837,538                                     | 20,935,216                                    | 81,778,655               | 887,138,082 | 4,898,042             | 1,837,122                     | 58,631,182  | 1,088,375,429 |

**TABLE B-16A Minimum OMP&R Component of Transportation Charge for Each Contractor**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
| 1961          | [20]                                   | [21]                      | [22]                            | [23]                                  | [24]                | [25]                                 | [26]                | [27]                    | [28]   | [29]  |
| 1962          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1963          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1964          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1965          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1966          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1967          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1968          | 65,074                                 | 28,085                    | 11,697                          | 2,958                                 | 19,291              | 1,089                                | 24,380              | 8,173                   | 52,315   | 14,399                                      |
| 1969          | 86,339                                 | 70,342                    | 15,522                          | 3,925                                 | 25,598              | 1,445                                | 32,348              | 10,844                  | 69,419   | 19,106                                      |
| 1970          | 107,807                                | 84,577                    | 19,392                          | 4,904                                 | 31,981              | 1,804                                | 40,391              | 13,540                  | 86,727   | 23,865                                      |
| 1971          | 178,820                                | 105,979                   | 32,228                          | 8,150                                 | 53,151              | 2,992                                | 66,999              | 22,459                  | 144,136  | 39,636                                      |
| 1972          | 363,555                                | 202,625                   | 106,740                         | 30,967                                | 176,037             | 6,601                                | 213,032             | 48,102                  | 548,123  | 144,113                                     |
| 1973          | 404,661                                | 222,765                   | 121,341                         | 34,674                                | 200,116             | 7,346                                | 243,320             | 53,975                  | 724,535  | 190,156                                     |
| 1974          | 434,868                                | 235,528                   | 130,627                         | 37,062                                | 215,432             | 7,677                                | 262,735             | 56,383                  | 786,107  | 207,019                                     |
| 1975          | 504,791                                | 289,501                   | 151,031                         | 43,176                                | 249,082             | 9,082                                | 303,108             | 65,580                  | 905,424  | 238,842                                     |
| 1976          | 559,013                                | 262,420                   | 160,686                         | 44,454                                | 265,004             | 10,030                               | 325,512             | 73,253                  | 964,524  | 256,570                                     |
| 1977          | 675,504                                | 335,749                   | 184,813                         | 47,743                                | 304,792             | 11,890                               | 381,161             | 87,355                  | 1,069,446                                      | 289,793                                     |
| 1978          | 600,343                                | 376,946                   | 187,028                         | 54,156                                | 308,449             | 10,711                               | 373,192             | 78,304                  | 1,148,279                                      | 300,751                                     |
| 1979          | 661,123                                | 349,072                   | 196,264                         | 52,211                                | 323,677             | 12,124                               | 401,469             | 87,126                  | 1,125,452                                      | 302,508                                     |
| 1980          | 858,039                                | 415,571                   | 253,090                         | 71,921                                | 417,398             | 15,435                               | 508,379             | 112,853                 | 1,518,405                                      | 401,223                                     |
| 1981          | 1,001,503                              | 511,087                   | 284,970                         | 73,534                                | 469,970             | 18,046                               | 588,024             | 131,992                 | 1,548,350                                      | 420,523                                     |
| 1982          | 1,128,643                              | 557,494                   | 320,938                         | 89,560                                | 529,292             | 20,193                               | 649,204             | 148,012                 | 1,870,559                                      | 497,871                                     |
| 1983          | 1,744,932                              | 832,687                   | 450,049                         | 119,275                               | 742,218             | 30,643                               | 922,072             | 225,793                 | 2,373,149                                      | 639,682                                     |
| 1984          | 2,105,780                              | 943,524                   | 548,784                         | 150,179                               | 905,055             | 36,810                               | 1,112,196           | 271,187                 | 3,018,294                                      | 803,394                                     |
| 1985          | 2,157,936                              | 1,055,744                 | 584,697                         | 157,841                               | 964,282             | 38,972                               | 1,191,309           | 277,250                 | 3,230,403                                      | 860,780                                     |
| 1986          | 2,311,841                              | 1,102,466                 | 618,750                         | 162,748                               | 1,020,438           | 40,051                               | 1,268,806           | 295,987                 | 3,318,638                                      | 893,069                                     |
| 1987          | 2,366,343                              | 1,032,918                 | 628,222                         | 167,262                               | 1,036,061           | 41,773                               | 1,283,836           | 307,844                 | 3,400,838                                      | 913,933                                     |
| 1988          | 2,303,274                              | 1,042,113                 | 649,276                         | 175,694                               | 1,070,784           | 40,604                               | 1,321,553           | 298,438                 | 3,587,873                                      | 960,968                                     |
| 1989          | 2,280,051                              | 1,088,176                 | 613,266                         | 169,993                               | 1,011,401           | 39,501                               | 1,240,888           | 292,775                 | 3,499,964                                      | 932,519                                     |
| 1990          | 2,636,186                              | 1,275,150                 | 708,829                         | 201,242                               | 1,169,006           | 45,472                               | 1,424,445           | 336,069                 | 4,084,211                                      | 1,078,392                                   |
| 1991          | 2,737,441                              | 1,454,172                 | 763,989                         | 210,644                               | 1,259,974           | 48,936                               | 1,546,583           | 358,165                 | 4,348,900                                      | 1,150,633                                   |
| 1992          | 2,781,586                              | 1,579,025                 | 750,248                         | 198,232                               | 1,237,307           | 49,829                               | 1,538,733           | 362,844                 | 4,131,745                                      | 1,115,632                                   |
| 1993          | 3,109,819                              | 1,688,775                 | 850,589                         | 234,719                               | 1,402,796           | 56,125                               | 1,722,415           | 411,539                 | 5,023,595                                      | 1,338,111                                   |
| 1994          | 2,825,193                              | 1,608,731                 | 794,991                         | 225,121                               | 1,311,100           | 51,259                               | 1,634,886           | 376,180                 | 4,794,820                                      | 1,267,565                                   |
| 1995          | 3,121,440                              | 1,720,649                 | 848,101                         | 231,718                               | 1,398,686           | 58,749                               | 1,766,297           | 444,998                 | 4,828,432                                      | 1,272,345                                   |
| 1996          | 3,093,678                              | 1,966,634                 | 862,720                         | 228,008                               | 1,422,789           | 56,813                               | 1,817,427           | 423,444                 | 4,707,473                                      | 1,256,549                                   |
| 1997          | 3,250,394                              | 1,810,292                 | 918,428                         | 281,067                               | 1,514,687           | 59,547                               | 1,853,224           | 446,127                 | 5,705,741                                      | 1,477,757                                   |
| 1998          | 3,876,512                              | 2,050,254                 | 1,070,517                       | 299,639                               | 1,765,491           | 73,835                               | 3,207,848           | 561,246                 | 6,076,375                                      | 1,634,942                                   |
| 1999          | 3,832,428                              | 2,108,765                 | 1,114,208                       | 311,154                               | 1,837,547           | 75,908                               | 3,226,793           | 549,879                 | 6,454,799                                      | 1,738,148                                   |
| 2000          | 3,748,188                              | 3,377,095                 | 1,035,299                       | 291,623                               | 1,707,415           | 68,346                               | 2,998,591           | 594,004                 | 5,874,561                                      | 1,571,594                                   |
| 2001          | 4,463,528                              | 3,773,107                 | 1,111,746                       | 298,092                               | 1,833,474           | 80,939                               | 3,287,848           | 700,578                 | 5,756,037                                      | 1,555,720                                   |
| 2002          | 3,639,084                              | 3,495,400                 | 1,017,572                       | 282,349                               | 1,678,180           | 62,548                               | 2,999,433           | 549,355                 | 5,629,064                                      | 1,510,466                                   |
| 2003          | 4,069,896                              | 3,395,569                 | 1,124,273                       | 298,713                               | 1,854,138           | 68,092                               | 3,297,627           | 608,992                 | 6,605,129                                      | 1,605,505                                   |
| 2004          | 4,449,076                              | 4,036,815                 | 1,443,531                       | 323,353                               | 1,911,254           | 76,869                               | 3,430,198           | 677,499                 | 7,230,993                                      | 1,767,454                                   |
| 2005          | 3,840,359                              | 3,554,688                 | 5,908,558                       | 289,941                               | 2,251,906           | 66,939                               | 2,915,476           | 582,582                 | 6,813,490                                      | 1,603,277                                   |
| 2006          | 4,101,568                              | 3,262,587                 | 8,465,275                       | 309,798                               | 2,825,644           | 75,037                               | 3,165,374           | 643,322                 | 7,117,463                                      | 1,698,707                                   |
| 2007          | 4,499,061                              | 4,417,507                 | 8,701,627                       | 330,623                               | 2,920,806           | 79,088                               | 3,353,296           | 685,251                 | 8,099,054                                      | 1,904,806                                   |
| 2008          | 4,968,759                              | 5,334,984                 | 9,828,820                       | 375,734                               | 3,328,060           | 82,776                               | 4,137,546           | 752,722                 | 9,335,976                                      | 2,058,149                                   |
| 2009          | 4,577,795                              | 4,495,073                 | 8,725,496                       | 356,944                               | 3,008,102           | 78,173                               | 3,725,860           | 693,121                 | 8,976,616                                      | 1,996,243                                   |
| 2010          | 4,186,562                              | 4,344,598                 | 9,424,067                       | 368,205                               | 3,240,568           | 73,891                               | 3,808,808           | 627,294                 | 8,988,989                                      | 1,999,768                                   |
| 2011          | 4,905,254                              | 4,736,368                 | 10,817,881                      | 416,801                               | 3,669,668           | 86,160                               | 4,344,908           | 765,572                 | 9,485,546                                      | 2,183,025                                   |
| 2012          | 5,531,329                              | 5,257,047                 | 11,533,133                      | 465,183                               | 4,007,222           | 98,926                               | 4,650,778           | 848,810                 | 10,835,065                                     | 2,411,888                                   |
| 2013          | 6,849,544                              | 6,454,699                 | 12,745,335                      | 530,204                               | 4,609,333           | 120,484                              | 5,579,996           | 1,047,413               | 12,318,780                                     | 2,836,832                                   |
| 2014          | 6,956,572                              | 6,452,547                 | 14,090,974                      | 556,646                               | 4,999,596           | 119,164                              | 6,182,771           | 1,052,931               | 13,186,486                                     | 3,060,558                                   |
| 2015          | 7,465,163                              | 6,651,819                 | 14,364,778                      | 575,954                               | 5,088,436           | 125,627                              | 6,226,379           | 1,102,304               | 13,690,867                                     | 3,124,006                                   |
| 2016          | 7,060,572                              | 6,580,594                 | 14,300,180                      | 568,901                               | 5,021,665           | 119,603                              | 6,132,069           | 1,052,197               | 13,716,086                                     | 3,106,791                                   |
| 2017          | 7,091,840                              | 6,534,861                 | 14,393,168                      | 567,206                               | 5,086,389           | 122,657                              | 6,197,466           | 1,059,167               | 13,566,829                                     | 3,127,811                                   |
| 2018          | 7,162,758                              | 6,600,210                 | 14,537,100                      | 572,878                               | 5,137,253           | 123,884                              | 6,259,441           | 1,069,759               | 13,702,497                                     | 3,159,089                                   |
| 2019          | 7,234,386                              | 6,666,212                 | 14,682,471                      | 578,607                               | 5,188,626           | 125,122                              | 6,322,036           | 1,080,457               | 13,839,523                                     | 3,190,680                                   |
| 2020          | 7,301,382                              | 6,729,191                 | 14,823,921                      | 584,163                               | 5,238,322           | 126,286                              | 6,557,685           | 1,090,472               | 13,973,804                                     | 3,221,453                                   |
| 2021          | 7,374,395                              | 6,796,483                 | 14,972,160                      | 590,004                               | 5,290,705           | 127,548                              | 6,623,262           | 1,101,377               | 14,113,543                                     | 3,253,668                                   |
| 2022          | 7,448,139                              | 6,864,448                 | 15,121,882                      | 595,904                               | 5,343,612           | 128,824                              | 6,689,495           | 1,112,391               | 14,254,678                                     | 3,286,204                                   |
| 2023          | 7,522,621                              | 6,933,092                 | 15,273,101                      | 601,863                               | 5,397,048           | 130,112                              | 6,756,390           | 1,123,515               | 14,397,226                                     | 3,319,066                                   |
| 2024          | 7,597,847                              | 7,002,423                 | 15,425,832                      | 607,882                               | 5,451,019           | 131,413                              | 6,823,953           | 1,134,750               | 14,541,197                                     | 3,352,257                                   |
| 2025          | 7,673,825                              | 7,072,448                 | 15,580,090                      | 613,961                               | 5,505,529           | 132,727                              | 6,892,193           | 1,146,097               | 14,686,609                                     | 3,385,780                                   |
| 2026          | 7,750,564                              | 7,143,172                 | 15,735,891                      | 620,101                               | 5,560,584           | 134,055                              | 6,961,115           | 1,157,558               | 14,833,475                                     | 3,419,637                                   |
| 2027          | 7,828,069                              | 7,214,604                 | 15,893,250                      | 626,302                               | 5,616,190           | 135,395                              | 7,030,726           | 1,169,134               | 14,981,810                                     | 3,453,834                                   |
| 2028          | 7,906,350                              | 7,286,750                 | 16,052,183                      | 632,564                               | 5,672,352           | 136,749                              | 7,101,033           | 1,180,825               | 15,131,629                                     | 3,488,372                                   |
| 2029          | 7,985,414                              | 7,359,617                 | 16,212,704                      | 638,890                               | 5,729,076           | 138,117                              | 7,172,044           | 1,192,634               | 15,282,945                                     | 3,523,256                                   |
| 2030          | 8,065,268                              | 7,433,213                 | 16,374,831                      | 645,279                               | 5,786,366           | 139,498                              | 7,243,764           | 1,204,560               | 15,435,774                                     | 3,558,488                                   |
| 2031          | 8,145,920                              | 7,507,546                 | 16,538,580                      | 651,732                               | 5,844,230           | 140,893                              | 7,316,202           | 1,216,606               | 15,590,132                                     | 3,594,073                                   |
| 2032          | 8,227,380                              | 7,582,621                 | 16,703,965                      | 658,249                               | 5,902,672           | 142,302                              | 7,389,364           | 1,228,772               | 15,746,033                                     | 3,630,014                                   |
| 2033          | 8,309,653                              | 7,658,447                 | 16,871,005                      | 664,832                               | 5,961,699           | 143,725                              | 7,463,257           | 1,241,059               | 15,903,493                                     | 3,666,314                                   |
| 2034          | 8,392,750                              | 7,735,032                 | 17,039,715                      | 671,480                               | 6,021,316           | 145,162                              | 7,537,890           | 1,253,470               | 16,062,530                                     | 3,702,977                                   |
| 2035          | 8,476,677                              | 7,812,382                 | 17,210,112                      | 678,195                               | 6,081,529           | 146,614                              | 7,613,269           | 1,266,005               | 16,223,154                                     | 3,740,007                                   |
| TOTAL         | 286,972,463                            | 243,962,067               | 449,032,535                     | 22,563,089                            | 184,428,881         | 5,015,035                            | 234,680,104         | 42,250,268              | 520,974,134                                    | 123,748,561                                 |

**TABLE B-16A Minimum OMP&R Component of Transportation Charge for Each Contractor**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |               | FEATHER RIVER AREA |                 |                      |        | South Bay Area Future Contractor | GRAND TOTAL    |
|---------------|--------------------------------------|--|--|---------------|--------------------|-----------------|----------------------|--------|----------------------------------|----------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total         | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total  |                                  |                |
| 1961          | [30] 0                               | [31] 0   | [32] 0                                       | [33] 0        | [34] 0             | [35] 0          | [36] 0               | [37] 0 | [38] 0                           | [39] 0         |
| 1962          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 3,219                            | 42,918         |
| 1963          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 12,626                           | 168,358        |
| 1964          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 13,938                           | 184,729        |
| 1965          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 28,937                           | 378,874        |
| 1966          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 31,321                           | 408,397        |
| 1967          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0      | 47,718                           | 634,505        |
| 1968          | 8,821                                | 972,734  | 9,504  | 1,218,520     | 0                  | 0               | 0                    | 0      | 46,945                           | 2,745,160      |
| 1969          | 11,704                               | 1,295,607  | 12,610                                       | 1,654,810     | 0                  | 0               | 0                    | 0      | 52,963                           | 4,074,939      |
| 1970          | 14,623                               | 1,624,569  | 15,746                                       | 2,069,923     | 0                  | 0               | 0                    | 0      | 69,744                           | 4,676,282      |
| 1971          | 24,302                               | 2,716,584  | 26,118                                       | 3,421,555     | 0                  | 0               | 54                   | 54     | 55,532                           | 6,185,714      |
| 1972          | 89,131                               | 8,038,463  | 68,369                                       | 10,035,857    | 0                  | 0               | 40                   | 40     | 80,412                           | 12,998,869     |
| 1973          | 117,779                              | 9,890,316  | 78,313                                       | 12,289,296    | 0                  | 0               | 1                    | 1      | 54,219                           | 15,194,233     |
| 1974          | 128,169                              | 11,581,491   | 83,453                                       | 14,166,551    | 0                  | 0               | 143                  | 143    | 76,783                           | 17,372,561     |
| 1975          | 147,899                              | 13,584,548   | 101,893                                      | 16,593,957    | 0                  | 0               | 1,069                | 1,069  | 84,547                           | 20,517,423     |
| 1976          | 158,664                              | 12,862,489   | 94,799                                       | 16,037,419    | 0                  | 0               | 139                  | 139    | 106,717                          | 20,027,213     |
| 1977          | 178,774                              | 16,203,699   | 121,966                                      | 19,892,683    | 0                  | 0               | 892                  | 892    | 98,618                           | 24,213,489     |
| 1978          | 186,384                              | 17,811,770   | 132,435                                      | 21,568,747    | 0                  | 0               | 39                   | 39     | 100,786                          | 26,012,786     |
| 1979          | 186,688                              | 16,414,289   | 126,756                                      | 20,238,761    | 0                  | 0               | 3,235                | 3,235  | 119,352                          | 24,675,598     |
| 1980          | 248,399                              | 20,926,898   | 154,096                                      | 25,901,706    | 0                  | 0               | 416                  | 416    | 178,812                          | 32,038,398     |
| 1981          | 259,244                              | 23,731,024   | 186,592                                      | 29,224,860    | 0                  | 0               | 3,847                | 3,847  | 185,347                          | 35,516,366     |
| 1982          | 307,955                              | 27,994,510   | 209,141                                      | 34,323,374    | 0                  | 0               | 11,075               | 11,075 | 173,894                          | 41,611,655     |
| 1983          | 394,524                              | 38,953,367   | 326,258                                      | 47,754,649    | 0                  | 0               | 1,928                | 1,928  | 220,926                          | 56,802,781     |
| 1984          | 496,808                              | 45,597,671   | 382,104                                      | 56,371,786    | 0                  | 0               | 3,765                | 3,765  | 225,959                          | 67,072,552     |
| 1985          | 531,765                              | 50,064,444   | 416,652                                      | 61,532,075    | 0                  | 0               | 2,888                | 2,888  | 340,322                          | 73,228,724     |
| 1986          | 551,066                              | 52,858,915   | 442,334                                      | 64,885,109    | 0                  | 0               | 2,787                | 2,787  | 279,227                          | 76,682,113     |
| 1987          | 564,352                              | 50,737,631   | 411,276                                      | 62,892,287    | 0                  | 0               | 2,388                | 2,388  | 345,116                          | 75,240,981     |
| 1988          | 593,787                              | 51,262,231   | 406,248                                      | 63,712,844    | 0                  | 0               | 545                  | 545    | 365,207                          | 76,126,695     |
| 1989          | 576,852                              | 52,638,942   | 431,020                                      | 64,815,349    | 0                  | 0               | 1,800                | 1,800  | 422,329                          | 78,708,338     |
| 1990          | 667,687                              | 61,053,824   | 494,721                                      | 75,175,234    | 0                  | 0               | 788                  | 788    | 474,284                          | 91,448,066     |
| 1991          | 711,803                              | 60,874,529   | 470,139                                      | 75,935,908    | 0                  | 0               | 3,654                | 3,654  | 214,683                          | 91,098,893     |
| 1992          | 688,558                              | 67,460,598   | 502,131                                      | 82,396,469    | 0                  | 0               | 647                  | 647    | 443,676                          | 100,077,320    |
| 1993          | 828,208                              | 68,749,547   | 538,751                                      | 85,955,990    | 0                  | 0               | 3,630                | 3,630  | 599,571                          | 107,321,034    |
| 1994          | 783,691                              | 63,898,029   | 473,897                                      | 80,045,461    | 0                  | 0               | 2,279                | 2,279  | 609,966                          | 101,233,250    |
| 1995          | 785,191                              | 68,079,888   | 523,512                                      | 85,080,005    | 0                  | 0               | 2,906                | 2,906  | 534,971                          | 107,378,966    |
| 1996          | 773,653                              | 72,757,439   | 561,100                                      | 89,927,727    | 0                  | 0               | 8,007                | 8,007  | 571,857                          | 113,585,948    |
| 1997          | 917,372                              | 75,655,465   | 564,455                                      | 94,454,555    | 0                  | 0               | 7,449                | 7,449  | 428,638                          | 114,939,131    |
| 1998          | 1,000,558                            | 80,540,695   | 608,294                                      | 102,766,204   | 0                  | 0               | 0                    | 0      | 465,095                          | 129,072,817    |
| 1999          | 1,066,898                            | 86,320,578   | 637,626                                      | 109,274,730   | 0                  | 0               | 0                    | 0      | 584,116                          | 136,697,736    |
| 2000          | 964,285                              | 82,387,903   | 634,908                                      | 105,253,813   | 0                  | 0               | 0                    | 0      | 0                                | 131,060,971    |
| 2001          | 949,494                              | 92,981,676   | 709,078                                      | 117,501,317   | 0                  | 0               | 0                    | 0      | 0                                | 146,320,718    |
| 2002          | 922,428                              | 85,410,289   | 657,383                                      | 107,853,552   | 0                  | 0               | 0                    | 0      | 0                                | 143,429,837    |
| 2003          | 1,515,719                            | 82,434,882   | 621,843                                      | 107,500,378   | 0                  | 0               | 3,393                | 3,393  | 0                                | 138,971,170    |
| 2004          | 1,437,179                            | 99,642,794   | 762,432                                      | 127,189,449   | 0                  | 0               | 3,455                | 3,455  | 0                                | 156,098,984    |
| 2005          | 1,589,231                            | 74,328,686   | 653,423                                      | 104,398,556   | 0                  | 0               | 3,452                | 3,452  | 0                                | 130,900,838    |
| 2006          | 1,448,696                            | 76,971,802   | 605,998                                      | 110,591,271   | 0                  | 0               | 3,867                | 3,867  | 0                                | 137,377,879    |
| 2007          | 1,819,161                            | 105,964,051  | 869,940                                      | 143,644,270   | 0                  | 0               | 3,515                | 3,515  | 0                                | 174,148,783    |
| 2008          | 2,464,750                            | 114,899,619  | 992,275                                      | 158,560,170   | 0                  | 0               | 4,991                | 4,991  | 0                                | 196,777,058    |
| 2009          | 2,323,966                            | 100,542,552  | 834,445                                      | 140,334,385   | 0                  | 0               | 840                  | 840    | 0                                | 173,766,827    |
| 2010          | 2,517,502                            | 99,600,994   | 800,298                                      | 139,981,544   | 0                  | 0               | 1,060                | 1,060  | 0                                | 177,974,654    |
| 2011          | 2,579,638                            | 106,333,178  | 854,260                                      | 151,178,259   | 0                  | 0               | 2,747                | 2,747  | 0                                | 193,566,732    |
| 2012          | 2,573,186                            | 121,400,718  | 979,157                                      | 170,592,443   | 0                  | 0               | 1,141                | 1,141  | 0                                | 216,085,218    |
| 2013          | 2,812,452                            | 143,169,011  | 1,210,859                                    | 200,284,942   | 0                  | 0               | 321                  | 321    | 0                                | 251,143,850    |
| 2014          | 3,166,142                            | 142,067,107  | 1,142,520                                    | 203,034,016   | 0                  | 0               | 153                  | 153    | 0                                | 259,928,658    |
| 2015          | 3,394,867                            | 149,771,172  | 1,218,490                                    | 212,799,861   | 0                  | 0               | 175                  | 175    | 0                                | 274,231,259    |
| 2016          | 3,444,211                            | 148,328,434  | 1,200,753                                    | 210,632,057   | 0                  | 0               | 183                  | 183    | 0                                | 272,936,427    |
| 2017          | 3,351,626                            | 146,333,848  | 1,198,944                                    | 208,631,812   | 0                  | 0               | 172                  | 172    | 0                                | 269,328,804    |
| 2018          | 3,385,143                            | 147,797,186  | 1,210,933                                    | 210,718,130   | 0                  | 0               | 173                  | 173    | 0                                | 272,022,092    |
| 2019          | 3,418,995                            | 149,275,160  | 1,223,043                                    | 212,825,316   | 0                  | 0               | 175                  | 175    | 0                                | 274,742,318    |
| 2020          | 3,452,494                            | 150,693,534  | 1,234,521                                    | 215,027,228   | 0                  | 0               | 177                  | 177    | 0                                | 277,489,739    |
| 2021          | 3,487,018                            | 152,200,470  | 1,246,866                                    | 217,177,501   | 0                  | 0               | 179                  | 179    | 0                                | 280,264,637    |
| 2022          | 3,521,889                            | 153,722,475  | 1,259,335                                    | 219,349,276   | 0                  | 0               | 180                  | 180    | 0                                | 283,067,282    |
| 2023          | 3,557,108                            | 155,259,698  | 1,271,928                                    | 221,542,769   | 0                  | 0               | 182                  | 182    | 0                                | 285,897,952    |
| 2024          | 3,592,678                            | 156,812,296  | 1,284,648                                    | 223,758,195   | 0                  | 0               | 184                  | 184    | 0                                | 288,756,932    |
| 2025          | 3,628,605                            | 158,380,418  | 1,297,494                                    | 225,995,776   | 0                  | 0               | 186                  | 186    | 0                                | 291,644,502    |
| 2026          | 3,664,892                            | 159,964,222  | 1,310,469                                    | 228,255,735   | 0                  | 0               | 188                  | 188    | 0                                | 294,560,947    |
| 2027          | 3,701,541                            | 161,563,865  | 1,323,574                                    | 230,538,293   | 0                  | 0               | 190                  | 190    | 0                                | 297,506,557    |
| 2028          | 3,738,556                            | 163,179,504  | 1,336,809                                    | 232,843,678   | 0                  | 0               | 192                  | 192    | 0                                | 300,481,626    |
| 2029          | 3,775,942                            | 164,811,296  | 1,350,178                                    | 235,172,110   | 0                  | 0               | 193                  | 193    | 0                                | 303,486,438    |
| 2030          | 3,813,701                            | 166,459,411  | 1,363,679                                    | 237,523,834   | 0                  | 0               | 195                  | 195    | 0                                | 306,521,303    |
| 2031          | 3,851,838                            | 168,124,007  | 1,377,316                                    | 239,899,074   | 0                  | 0               | 197                  | 197    | 0                                | 309,586,519    |
| 2032          | 3,890,356                            | 169,805,246  | 1,391,089                                    | 242,298,063   | 0                  | 0               | 199                  | 199    | 0                                | 312,682,381    |
| 2033          | 3,929,259                            | 171,503,298  | 1,405,000                                    | 244,721,043   | 0                  | 0               | 201                  | 201    | 0                                | 315,809,207    |
| 2034          | 3,968,552                            | 173,218,331  | 1,419,050                                    | 247,168,255   | 0                  | 0               | 203                  | 203    | 0                                | 318,967,298    |
| 2035          | 4,008,238                            | 174,950,515  | 1,433,241                                    | 249,639,937   | 0                  | 0               | 205                  | 205    | 0                                | 322,156,972    |
| TOTAL         | 119,662,645                          | 6,103,442,432  | 49,298,493                                   | 8,386,030,706 | 0                  | 0               | 99,275               | 99,275 | 8,748,370                        | 10,666,277,181 |

**TABLE B-16B Minimum OMP&R Component of Transportation Charge  
for Each Contractor for Off-Aqueduct Power Facilities <sup>a b</sup>**

(in dollars)

Sheet 1 of 4

| Calendar<br>Year | NORTH BAY AREA           |                        |                  | SOUTH BAY AREA                         |  |  |                   | CENTRAL COASTAL AREA                   |                                      |                   |
|------------------|--------------------------|------------------------|------------------|--|--|--|-------------------|--|--------------------------------------|-------------------|
|                  | Napa<br>County<br>FC&WCD | Solano<br>County<br>WA | Total            | Alameda<br>County<br>FC&WCD,<br>Zone 7 | Alameda<br>County<br>Water<br>District | Santa Clara<br>Valley<br>Water<br>District | Total             | San Luis<br>Obispo<br>County<br>FC&WCD | Santa<br>Barbara<br>County<br>FC&WCD | Total             |
|                  | [1]                      | [2]                    | [3]              | [4]                                    | [5]                                    | [6]  | [7]               | [8]                                    | [9]                                  | [10]              |
| 1971             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1972             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1973             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1974             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1975             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1976             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1977             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1978             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1979             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1980             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1981             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1982             | 0                        | 0                      | 0                | 0                                      | 0                                      | 0  | 0                 | 0                                      | 0                                    | 0                 |
| 1983             | 10,070                   | 0                      | 10,070           | 47,473                                 | 31,446                                 | 863,937                                    | 942,856           | 0                                      | 0                                    | 0                 |
| 1984             | 29,957                   | 0                      | 29,957           | 157,280                                | 77,388                                 | 2,040,188                                  | 2,274,856         | 0                                      | 0                                    | 0                 |
| 1985             | 54,709                   | 0                      | 54,709           | 458,427                                | 582,679                                | 2,696,450                                  | 3,737,556         | 0                                      | 0                                    | 0                 |
| 1986             | 45,887                   | 0                      | 45,887           | 312,938                                | 365,147                                | 2,595,765                                  | 3,273,850         | 0                                      | 0                                    | 0                 |
| 1987             | 90,385                   | 0                      | 90,385           | 622,029                                | 674,111                                | 2,306,079                                  | 3,602,219         | 0                                      | 0                                    | 0                 |
| 1988             | 115,970                  | 114,196                | 230,166          | 616,865                                | 804,606                                | 2,116,236                                  | 3,537,707         | 0                                      | 0                                    | 0                 |
| 1989             | 64,584                   | 138,240                | 202,824          | 407,353                                | 396,069                                | 1,389,347                                  | 2,192,769         | 0                                      | 0                                    | 0                 |
| 1990             | 77,126                   | 138,805                | 215,931          | 535,269                                | 514,372                                | 1,490,250                                  | 2,539,891         | 0                                      | 0                                    | 0                 |
| 1991             | 35,178                   | 245,181                | 280,359          | 355,578                                | 477,883                                | 1,065,488                                  | 1,898,949         | 0                                      | 165,930                              | 165,930           |
| 1992             | 74,573                   | 230,716                | 305,289          | 405,244                                | 529,119                                | 1,183,466                                  | 2,117,829         | 0                                      | 0                                    | 0                 |
| 1993             | 89,214                   | 247,977                | 337,191          | 841,383                                | 256,930                                | 1,552,562                                  | 2,650,875         | 0                                      | 0                                    | 0                 |
| 1994             | 111,942                  | 229,598                | 341,540          | 501,812                                | 559,683                                | 1,395,238                                  | 2,456,733         | 0                                      | 0                                    | 0                 |
| 1995             | 96,842                   | 235,605                | 332,447          | 833,227                                | 492,578                                | 796,524                                    | 2,122,329         | 0                                      | 0                                    | 0                 |
| 1996             | 63,698                   | 205,414                | 269,112          | 367,297                                | 304,845                                | 1,189,291                                  | 1,861,433         | 711                                    | 105                                  | 816               |
| 1997             | 48,518                   | 193,255                | 241,773          | 455,751                                | 294,951                                | 1,220,497                                  | 1,971,199         | 44,788                                 | 298,986                              | 343,774           |
| 1998             | 82,317                   | 251,217                | 333,534          | 380,321                                | 380,282                                | 1,103,662                                  | 1,864,265         | 198,376                                | 1,028,220                            | 1,226,596         |
| 1999             | 58,017                   | 195,562                | 253,579          | 559,900                                | 446,655                                | 1,039,572                                  | 2,046,127         | 147,204                                | 791,946                              | 939,150           |
| 2000             | 28,759                   | 128,393                | 157,152          | 374,808                                | 237,138                                | 748,820                                    | 1,360,766         | 82,628                                 | 474,268                              | 556,896           |
| 2001             | 81,666                   | 157,196                | 238,862          | 396,340                                | 233,205                                | 673,431                                    | 1,302,976         | 134,574                                | 595,294                              | 729,868           |
| 2002             | 40,236                   | 127,750                | 167,986          | 383,365                                | 229,280                                | 519,819                                    | 1,132,464         | 91,639                                 | 583,933                              | 675,572           |
| 2003             | 37,618                   | 92,735                 | 130,353          | 301,657                                | 180,804                                | 643,729                                    | 1,126,190         | 78,771                                 | 477,048                              | 555,819           |
| 2004             | 50,289                   | 128,180                | 178,469          | 447,802                                | 210,093                                | 546,342                                    | 1,204,237         | 92,836                                 | 662,110                              | 754,946           |
| 2005             | 53,455                   | 149,328                | 202,783          | 452,896                                | 265,252                                | 772,420                                    | 1,490,568         | 106,901                                | 587,036                              | 693,937           |
| 2006             | 59,239                   | 127,708                | 186,947          | 476,295                                | 277,304                                | 798,098                                    | 1,551,697         | 109,498                                | 605,502                              | 715,000           |
| 2007             | 82,724                   | 182,954                | 265,678          | 445,250                                | 246,862                                | 740,211                                    | 1,432,323         | 103,331                                | 759,114                              | 862,445           |
| 2008             | 200,185                  | 304,502                | 504,687          | 861,568                                | 428,737                                | 1,074,975                                  | 2,365,280         | 184,501                                | 997,507                              | 1,182,008         |
| 2009             | 167,186                  | 237,569                | 404,754          | 708,409                                | 418,456                                | 1,279,442                                  | 2,406,307         | 209,684                                | 853,143                              | 1,062,827         |
| 2010             | 186,503                  | 221,486                | 407,989          | 876,092                                | 407,548                                | 1,266,270                                  | 2,549,910         | 203,422                                | 963,122                              | 1,166,544         |
| 2011             | 121,673                  | 145,499                | 267,172          | 685,604                                | 372,699                                | 1,174,038                                  | 2,232,341         | 147,645                                | 829,034                              | 976,678           |
| 2012             | 130,199                  | 185,005                | 315,203          | 830,163                                | 319,227                                | 1,135,648                                  | 2,285,038         | 186,059                                | 920,215                              | 1,106,274         |
| 2013             | 115,126                  | 174,866                | 289,992          | 613,548                                | 332,291                                | 1,063,136                                  | 2,008,975         | 121,942                                | 608,997                              | 730,939           |
| 2014             | 102,045                  | 119,184                | 221,229          | 411,555                                | 236,398                                | 826,518                                    | 1,474,471         | 168,521                                | 421,143                              | 589,664           |
| 2015             | 30,511                   | 37,372                 | 67,883           | 141,320                                | 87,374                                 | 263,478                                    | 492,172           | 69,951                                 | 174,747                              | 244,698           |
| 2016             | 18,497                   | 15,998                 | 34,495           | 76,150                                 | 37,892                                 | 107,730                                    | 221,772           | 51,860                                 | 104,224                              | 156,083           |
| 2017             | 18,142                   | 15,691                 | 33,834           | 74,689                                 | 37,165                                 | 105,663                                    | 217,518           | 50,865                                 | 102,224                              | 153,089           |
| 2018             | 7,300                    | 6,314                  | 13,614           | 30,054                                 | 14,955                                 | 42,518                                     | 87,528            | 20,468                                 | 41,134                               | 61,602            |
| 2019             | 7,314                    | 6,351                  | 13,665           | 30,112                                 | 15,688                                 | 37,351                                     | 83,151            | 18,684                                 | 41,213                               | 59,898            |
| 2020             | 7,937                    | 6,891                  | 14,828           | 32,674                                 | 17,022                                 | 40,529                                     | 90,226            | 20,274                                 | 44,720                               | 64,994            |
| 2021             | 11,591                   | 10,064                 | 21,654           | 47,717                                 | 24,859                                 | 59,189                                     | 131,765           | 29,608                                 | 65,308                               | 94,916            |
| 2022             | 10,973                   | 9,527                  | 20,500           | 45,175                                 | 23,535                                 | 56,035                                     | 124,745           | 28,030                                 | 61,829                               | 89,859            |
| 2023             | 8,049                    | 6,989                  | 15,038           | 33,138                                 | 17,264                                 | 41,104                                     | 91,506            | 20,562                                 | 45,354                               | 65,916            |
| 2024             | 6,016                    | 5,224                  | 11,240           | 24,768                                 | 12,903                                 | 30,722                                     | 68,393            | 15,368                                 | 33,899                               | 49,267            |
| 2025             | 985                      | 855                    | 1,839            | 4,053                                  | 2,112                                  | 5,028                                      | 11,193            | 2,515                                  | 5,548                                | 8,063             |
| 2026             | 1,235                    | 1,072                  | 2,307            | 5,083                                  | 2,648                                  | 6,305                                      | 14,035            | 3,154                                  | 6,956                                | 10,110            |
| 2027             | 1,837                    | 1,595                  | 3,432            | 7,563                                  | 3,940                                  | 9,381                                      | 20,885            | 4,693                                  | 10,351                               | 15,044            |
| 2028             | 1,274                    | 1,106                  | 2,381            | 5,246                                  | 2,733                                  | 6,508                                      | 14,488            | 3,255                                  | 7,181                                | 10,436            |
| 2029             | 1,268                    | 1,101                  | 2,369            | 5,220                                  | 2,720                                  | 6,475                                      | 14,415            | 3,239                                  | 7,145                                | 10,384            |
| 2030             | 380                      | 330                    | 710              | 1,565                                  | 815                                    | 1,941                                      | 4,321             | 971                                    | 2,142                                | 3,112             |
| 2031             | 379                      | 329                    | 708              | 1,560                                  | 813                                    | 1,936                                      | 4,309             | 968                                    | 2,136                                | 3,104             |
| 2032             | 389                      | 338                    | 726              | 1,600                                  | 834                                    | 1,985                                      | 4,419             | 993                                    | 2,190                                | 3,183             |
| 2033             | 386                      | 335                    | 720              | 1,587                                  | 827                                    | 1,969                                      | 4,383             | 985                                    | 2,172                                | 3,157             |
| 2034             | 382                      | 331                    | 713              | 1,572                                  | 819                                    | 1,949                                      | 4,340             | 975                                    | 2,151                                | 3,126             |
| 2035             | 389                      | 338                    | 727              | 1,601                                  | 834                                    | 1,986                                      | 4,422             | 994                                    | 2,192                                | 3,185             |
| <b>TOTAL</b>     | <b>2,741,123</b>         | <b>5,036,270</b>       | <b>7,777,393</b> | <b>16,695,948</b>                      | <b>11,891,789</b>                      | <b>40,137,233</b>                          | <b>68,724,970</b> | <b>2,761,442</b>                       | <b>13,387,468</b>                    | <b>16,148,910</b> |

(a) 1983 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include both debt service and bond cover.

(b) 2009 through 2015 charges also include Reid Gardner separation costs that are allocated to contractors based on theoretical energy use for years 1983-2010.

**TABLE B-16B Minimum OMP&R Component of Transportation Charge  
for Each Contractor for Off-Aqueduct Power Facilities <sup>a b</sup>**

(in dollars)

Sheet 2 of 4

| Calendar<br>Year | SAN JOAQUIN VALLEY AREA           |   |                                |              |                       |                               |   |             |
|------------------|-----------------------------------|---|--------------------------------|--------------|-----------------------|-------------------------------|---|-------------|
|                  | Dudley Ridge<br>Water<br>District | Empire<br>West Side<br>Irrigation<br>District | Kern County Water Agency       |              | County<br>of<br>Kings | Oak Flat<br>Water<br>District | Tulare Lake<br>Basin<br>Water Storage<br>District | Total       |
|                  |                                   |   | Municipal<br>and<br>Industrial | Agricultural |                       |                               |   |             |
|                  | [11]                              | [12]  | [13]                           | [14]         | [15]                  | [16]                          | [17]  | [18]        |
| 1971             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1972             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1973             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1974             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1975             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1976             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1977             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1978             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1979             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1980             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1981             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1982             | 0                                 | 0   | 0                              | 0            | 0                     | 0                             | 0   | 0           |
| 1983             | 159,191                           | 0   | 34,366                         | 2,964,185    | 13,174                | 9,673                         | 3,733   | 3,184,322   |
| 1984             | 389,518                           | 0   | 816,103                        | 9,095,509    | 26,774                | 33,576                        | 49,601  | 10,411,081  |
| 1985             | 527,952                           | 59,322  | 1,053,957                      | 11,978,046   | 38,810                | 42,297                        | 1,253,257   | 14,953,641  |
| 1986             | 552,172                           | 12,858  | 885,988                        | 11,788,714   | 40,659                | 38,275                        | 872,008   | 14,190,674  |
| 1987             | 450,941                           | 24,936  | 1,192,388                      | 10,448,063   | 39,134                | 37,538                        | 911,938   | 13,104,938  |
| 1988             | 425,261                           | 31,146  | 1,130,988                      | 9,910,050    | 35,851                | 26,779                        | 850,225   | 12,410,300  |
| 1989             | 331,852                           | 17,226  | 607,908                        | 7,400,983    | 22,959                | 24,306                        | 754,007   | 9,159,241   |
| 1990             | 219,381                           | 7,731   | 428,482                        | 5,216,562    | 12,089                | 12,046                        | 344,943   | 6,241,234   |
| 1991             | 13,048                            | 3,111   | 570,942                        | 146,276      | 0                     | 1,354                         | 30,685  | 765,416     |
| 1992             | 244,630                           | 13,395  | 706,155                        | 5,788,599    | 18,587                | 15,716                        | 480,903   | 7,267,985   |
| 1993             | 471,706                           | 25,543  | 1,202,455                      | 11,405,212   | 37,276                | 36,803                        | 1,159,908   | 14,338,903  |
| 1994             | 262,029                           | 15,161  | 901,463                        | 6,786,208    | 19,257                | 19,061                        | 567,521   | 8,570,700   |
| 1995             | 626,214                           | 16,830  | 1,486,494                      | 12,489,555   | 41,275                | 36,377                        | 1,051,178   | 15,747,923  |
| 1996             | 407,919                           | 13,446  | 1,226,968                      | 9,219,091    | 28,668                | 24,001                        | 1,691,135   | 12,611,228  |
| 1997             | 423,144                           | (6)   | 794,476                        | 7,471,645    | (31)                  | 22,025                        | 137,304   | 8,848,557   |
| 1998             | 471,993                           | 4,597   | 837,228                        | 8,366,817    | 127                   | 25,458                        | 175,371   | 9,881,591   |
| 1999             | 360,554                           | 19,182  | 874,948                        | 7,723,883    | 24,159                | 20,065                        | 1,749,925   | 10,772,716  |
| 2000             | 193,895                           | 5,762   | 392,659                        | 4,215,772    | 11,530                | 9,847                         | 667,127   | 5,496,592   |
| 2001             | 200,485                           | 6,563   | 113,854                        | 2,948,087    | 7,528                 | 11,821                        | 287,409   | 3,575,747   |
| 2002             | 153,306                           | 4,540   | 308,554                        | 2,797,916    | 9,223                 | 10,767                        | 299,940   | 3,584,246   |
| 2003             | 125,188                           | 3,901   | 301,142                        | 2,626,386    | 10,030                | 7,904                         | 287,531   | 3,362,082   |
| 2004             | 168,005                           | 12,193  | 457,106                        | 2,914,113    | 30,989                | 10,807                        | 278,204   | 3,871,417   |
| 2005             | 315,142                           | 14,807  | 358,007                        | 5,609,958    | 76,490                | 11,047                        | 540,681   | 6,926,132   |
| 2006             | 287,977                           | 13,112  | 401,503                        | 5,488,668    | 38,075                | 11,559                        | 432,313   | 6,673,207   |
| 2007             | 189,684                           | 8,758   | 242,253                        | 3,662,405    | 24,280                | 10,224                        | 365,975   | 4,503,579   |
| 2008             | 184,682                           | 7,887   | 381,864                        | 3,930,067    | 31,949                | 11,276                        | 282,379   | 4,830,104   |
| 2009             | 181,200                           | 8,817   | 63,082                         | 4,518,839    | 28,827                | 11,595                        | 314,621   | 5,126,982   |
| 2010             | 250,194                           | 27,117  | 96,128                         | 5,774,210    | 40,474                | 16,580                        | 488,098   | 6,692,800   |
| 2011             | 362,592                           | 11,506  | 290,168                        | 7,797,111    | 39,939                | 11,233                        | 338,448   | 8,850,998   |
| 2012             | 139,042                           | 16,387  | 281,108                        | 5,881,018    | 53,747                | 16,121                        | 654,940   | 7,042,362   |
| 2013             | 178,736                           | 9,388   | 258,332                        | 4,167,007    | 25,842                | 11,879                        | 300,991   | 4,952,175   |
| 2014             | 128,431                           | 5,003   | 205,115                        | 3,361,153    | 10,709                | 8,200                         | 193,229   | 3,911,840   |
| 2015             | 55,898                            | 2,693   | 128,394                        | 1,181,467    | 7,040                 | 3,603                         | 103,250   | 1,482,345   |
| 2016             | 17,720                            | 1,056   | 54,595                         | 388,429      | 3,343                 | 1,368                         | 30,780  | 497,291     |
| 2017             | 17,380                            | 1,035   | 53,548                         | 380,978      | 3,279                 | 1,342                         | 30,189  | 487,751     |
| 2018             | 6,994                             | 417   | 21,547                         | 153,303      | 1,319                 | 540                           | 12,148  | 196,268     |
| 2019             | 6,031                             | 417   | 22,399                         | 153,174      | 1,322                 | 541                           | 12,373  | 196,258     |
| 2020             | 6,544                             | 453   | 24,305                         | 166,206      | 1,434                 | 587                           | 13,426  | 212,956     |
| 2021             | 9,557                             | 661   | 35,495                         | 242,726      | 2,095                 | 857                           | 19,607  | 310,998     |
| 2022             | 9,048                             | 626   | 33,604                         | 229,794      | 1,983                 | 812                           | 18,562  | 294,428     |
| 2023             | 6,637                             | 459   | 24,650                         | 168,564      | 1,455                 | 595                           | 13,616  | 215,977     |
| 2024             | 4,961                             | 343   | 18,424                         | 125,988      | 1,087                 | 445                           | 10,177  | 161,425     |
| 2025             | 812                               | 56  | 3,015                          | 20,618       | 178                   | 73                            | 1,666   | 26,418      |
| 2026             | 1,018                             | 70  | 3,781                          | 25,854       | 223                   | 91                            | 2,088   | 33,126      |
| 2027             | 1,515                             | 105   | 5,626                          | 38,472       | 332                   | 136                           | 3,108   | 49,293      |
| 2028             | 1,051                             | 73  | 3,903                          | 26,688       | 230                   | 94                            | 2,156   | 34,194      |
| 2029             | 1,046                             | 72  | 3,883                          | 26,555       | 229                   | 94                            | 2,145   | 34,024      |
| 2030             | 313                               | 22  | 1,164                          | 7,959        | 69                    | 28                            | 643   | 10,198      |
| 2031             | 313                               | 22  | 1,161                          | 7,937        | 68                    | 28                            | 641   | 10,170      |
| 2032             | 321                               | 22  | 1,190                          | 8,140        | 70                    | 29                            | 658   | 10,430      |
| 2033             | 318                               | 22  | 1,181                          | 8,074        | 70                    | 29                            | 652   | 10,344      |
| 2034             | 315                               | 22  | 1,169                          | 7,994        | 69                    | 28                            | 646   | 10,243      |
| 2035             | 321                               | 22  | 1,191                          | 8,146        | 70                    | 29                            | 658   | 10,437      |
| TOTAL            | 9,544,175                         | 428,888                                       | 19,346,408                     | 207,269,174  | 864,366               | 607,558                       | 18,094,717  | 256,155,286 |

(a) 1983 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include both debt service and bond cover.

(b) 2009 through 2015 charges also include Reid Gardner separation costs that are allocated to contractors based on theoretical energy use for years 1983-2010.

**TABLE B-16B Minimum OMP&R Component of Transportation Charge  
for Each Contractor for Off-Aqueduct Power Facilities <sup>a b</sup>**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
| [19]          | [20]                                   | [21]                      | [22]                            | [23]                                  | [24]                | [25]                                 | [26]                | [27]                    | [28]   |   |
| 1971          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1972          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1973          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1974          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1975          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1976          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1977          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1978          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1979          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1980          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1981          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1982          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1983          | 1,083,881                              | 411,247                   | 565,798                         | 35,432                                | 894,572             | 1,250                                | 0                   | 0                       | 233,134  | 28,548                                      |
| 1984          | 2,499,848                              | 1,122,640                 | 1,427,428                       | 102,114                               | 2,263,172           | 77                                   | 0                   | 0                       | 502,967  | 693,074                                     |
| 1985          | 3,749,257                              | 1,572,025                 | 2,032,672                       | 170,137                               | 3,230,451           | 0                                    | 0                   | 157,601                 | 884,188  | 601,583                                     |
| 1986          | 3,159,857                              | 1,694,487                 | 2,097,408                       | 173,460                               | 3,340,188           | 15,873                               | 0                   | 301,486                 | 739,563  | 1,088,901                                   |
| 1987          | 3,167,759                              | 1,694,698                 | 1,991,841                       | 190,149                               | 3,230,424           | 95,994                               | 1,786               | 258,719                 | 1,951,799                                      | 1,091,691                                   |
| 1988          | 2,688,113                              | 1,776,471                 | 1,940,156                       | 187,156                               | 3,194,137           | 30,395                               | 846                 | 126,639                 | 2,000,664                                      | 839,774                                     |
| 1989          | 2,357,669                              | 1,348,806                 | 1,326,863                       | 132,076                               | 2,218,516           | 50,948                               | 13,206              | 493,424                 | 1,257,332                                      | 792,087                                     |
| 1990          | 2,528,625                              | 1,335,341                 | 1,463,452                       | 115,746                               | 2,413,745           | 110,678                              | 0                   | 545,342                 | 1,192,997                                      | 1,054,762                                   |
| 1991          | 1,048,414                              | 531,160                   | 1,022,405                       | 125,256                               | 1,686,304           | 65,111                               | 473,291             | 488,207                 | 540,119  | 796,531                                     |
| 1992          | 2,760,199                              | 1,548,472                 | 1,124,775                       | 55,985                                | 1,855,065           | 22,891                               | 1,130,876           | 367,996                 | 362,232  | 853,047                                     |
| 1993          | 3,559,487                              | 1,332,392                 | 2,256,338                       | 29,498                                | 3,721,492           | 60,615                               | 1,101,799           | 640,919                 | 425,969  | 1,406,255                                   |
| 1994          | 3,963,982                              | 1,450,328                 | 1,345,145                       | 74,879                                | 2,218,411           | 88,549                               | 1,371,116           | 678,876                 | 871,358  | 1,452,741                                   |
| 1995          | 4,324,009                              | 1,901,361                 | 2,498,462                       | 44,237                                | 4,120,837           | 43,892                               | 881,146             | 636,541                 | 75,278   | 1,397,623                                   |
| 1996          | 3,572,856                              | 1,507,542                 | 4,652,945                       | 77,384                                | 7,674,388           | 31,691                               | 760,763             | 723,670                 | 458,246  | 1,201,941                                   |
| 1997          | 3,411,379                              | 1,468,949                 | 4,294,703                       | 42,135                                | 4,319,206           | 24,319                               | 891,191             | 648,652                 | 625,340  | 1,175,556                                   |
| 1998          | 3,977,988                              | 1,599,394                 | 7,554,910                       | 16,624                                | 6,174,031           | 30,365                               | 508,248             | 657,806                 | 166,952  | 827,650                                     |
| 1999          | 3,696,973                              | 1,694,851                 | 3,195,685                       | 71,662                                | 3,678,076           | 18,305                               | 501,486             | 710,674                 | 815,001  | 1,375,575                                   |
| 2000          | 2,372,130                              | 994,396                   | 1,420,806                       | 40,083                                | 1,954,947           | 0                                    | 374,972             | 257,146                 | 617,664  | 508,258                                     |
| 2001          | 2,680,895                              | 1,418,179                 | 460,256                         | 53,460                                | 759,169             | 0                                    | 213,385             | 445,872                 | 1,339,699                                      | 119,363                                     |
| 2002          | 1,668,457                              | 1,384,832                 | 567,521                         | 74,145                                | 936,215             | 0                                    | 140,035             | 529,674                 | 2,414,011                                      | 841,746                                     |
| 2003          | 1,445,146                              | 1,353,956                 | 411,258                         | 44,506                                | 678,236             | 0                                    | 405,376             | 277,984                 | 780,631  | 624,561                                     |
| 2004          | 1,813,317                              | 1,677,090                 | 554,874                         | 71,974                                | 760,283             | 0                                    | 465,965             | 368,929                 | 2,072,770                                      | 449,963                                     |
| 2005          | 2,047,638                              | 1,443,555                 | 1,721,141                       | 32,667                                | 1,987,091           | 0                                    | 542,366             | 400,828                 | 1,568,493                                      | 566,063                                     |
| 2006          | 2,845,985                              | 1,617,750                 | 5,071,235                       | 26,843                                | 2,093,821           | 0                                    | 1,417,777           | 442,278                 | 1,533,665                                      | 681,916                                     |
| 2007          | 2,990,954                              | 1,864,667                 | 3,225,680                       | 77,880                                | 1,331,802           | 0                                    | 2,023,088           | 710,515                 | 2,639,102                                      | 177,256                                     |
| 2008          | 3,547,772                              | 3,303,503                 | 4,059,802                       | 74,029                                | 2,237,582           | 1,845                                | 2,200,333           | 1,052,126               | 3,410,480                                      | 629,597                                     |
| 2009          | 3,350,539                              | 3,010,931                 | 4,067,070                       | 79,671                                | 1,633,327           | 3,263                                | 2,559,670           | 1,152,062               | 3,948,007                                      | 1,025,723                                   |
| 2010          | 4,321,133                              | 2,663,067                 | 7,385,867                       | 31,714                                | 2,730,993           | 177                                  | 3,304,241           | 810,142                 | 4,668,858                                      | 1,673,291                                   |
| 2011          | 4,952,954                              | 1,811,301                 | 5,605,548                       | 13,018                                | 2,290,872           | 407                                  | 309,065             | 551,068                 | 2,185,513                                      | 1,468,910                                   |
| 2012          | 5,401,397                              | 2,619,529                 | 8,864,502                       | 48,852                                | 3,451,280           | 495                                  | 848,848             | 1,072,349               | 7,388,666                                      | 1,677,958                                   |
| 2013          | 2,571,905                              | 2,284,510                 | 2,291,863                       | 78,579                                | 1,451,407           | 3,708                                | 487,707             | 516,502                 | 1,907,291                                      | 592,411                                     |
| 2014          | 1,286,276                              | 1,507,846                 | 1,099,154                       | 90,799                                | 809,780             | 8,550                                | 296,456             | 339,581                 | 1,026,791                                      | 277,249                                     |
| 2015          | 866,680                                | 557,523                   | 882,130                         | 33,962                                | 530,606             | 10,607                               | 426,726             | 138,116                 | 619,567  | 221,281                                     |
| 2016          | 451,716                                | 309,246                   | 510,276                         | 21,392                                | 205,623             | 7,172                                | 290,562             | 66,420                  | 378,419  | 106,223                                     |
| 2017          | 443,001                                | 303,313                   | 500,487                         | 20,982                                | 201,678             | 7,035                                | 286,109             | 65,146                  | 371,160  | 104,185                                     |
| 2018          | 178,261                                | 122,051                   | 201,393                         | 8,443                                 | 81,154              | 2,831                                | 115,128             | 26,214                  | 149,352  | 41,923                                      |
| 2019          | 174,357                                | 91,174                    | 201,779                         | 8,459                                 | 81,310              | 2,836                                | 129,732             | 26,265                  | 149,639  | 42,004                                      |
| 2020          | 189,192                                | 99,574                    | 218,947                         | 9,179                                 | 88,228              | 3,077                                | 141,748             | 28,499                  | 162,371  | 45,578                                      |
| 2021          | 276,294                                | 147,917                   | 319,748                         | 13,405                                | 128,847             | 4,494                                | 207,007             | 41,620                  | 237,124  | 66,561                                      |
| 2022          | 261,573                                | 142,700                   | 302,712                         | 12,691                                | 121,982             | 4,255                                | 195,978             | 39,402                  | 224,491  | 63,015                                      |
| 2023          | 191,876                                | 106,414                   | 222,053                         | 9,309                                 | 89,479              | 3,121                                | 143,759             | 28,904                  | 164,674  | 46,224                                      |
| 2024          | 143,412                                | 80,996                    | 165,967                         | 6,958                                 | 66,878              | 2,333                                | 107,448             | 21,603                  | 123,080  | 34,549                                      |
| 2025          | 23,470                                 | 13,468                    | 27,161                          | 1,139                                 | 10,945              | 382                                  | 17,584              | 3,535                   | 20,142   | 5,654                                       |
| 2026          | 29,430                                 | 17,054                    | 34,058                          | 1,428                                 | 13,724              | 479                                  | 22,049              | 4,433                   | 25,257   | 7,090                                       |
| 2027          | 43,792                                 | 25,675                    | 50,680                          | 2,125                                 | 20,422              | 712                                  | 32,810              | 6,597                   | 37,584   | 10,550                                      |
| 2028          | 30,378                                 | 17,982                    | 35,156                          | 1,474                                 | 14,167              | 494                                  | 22,760              | 4,576                   | 26,072   | 7,318                                       |
| 2029          | 30,227                                 | 18,132                    | 34,981                          | 1,467                                 | 14,096              | 492                                  | 22,647              | 4,553                   | 25,942   | 7,282                                       |
| 2030          | 9,060                                  | 5,496                     | 10,485                          | 440                                   | 4,225               | 147                                  | 6,788               | 1,365                   | 7,776  | 2,183                                       |
| 2031          | 9,035                                  | 5,573                     | 10,456                          | 438                                   | 4,213               | 147                                  | 6,769               | 1,361                   | 7,754  | 2,177                                       |
| 2032          | 9,266                                  | 5,799                     | 10,723                          | 450                                   | 4,321               | 151                                  | 6,942               | 1,396                   | 7,952  | 2,232                                       |
| 2033          | 9,190                                  | 5,835                     | 10,635                          | 446                                   | 4,286               | 149                                  | 6,885               | 1,384                   | 7,887  | 2,214                                       |
| 2034          | 9,100                                  | 5,860                     | 10,531                          | 441                                   | 4,244               | 148                                  | 6,818               | 1,371                   | 7,810  | 2,192                                       |
| 2035          | 9,272                                  | 6,055                     | 10,730                          | 450                                   | 4,324               | 151                                  | 6,947               | 1,397                   | 7,958  | 2,234                                       |
| <b>TOTAL</b>  | <b>98,235,375</b>                      | <b>55,033,114</b>         | <b>91,368,651</b>               | <b>2,637,224</b>                      | <b>83,034,571</b>   | <b>760,611</b>                       | <b>25,428,234</b>   | <b>16,877,765</b>       | <b>53,366,791</b>                              | <b>28,814,273</b>                           |

(a) 1983 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include both debt service and bond cover.

(b) 2009 through 2015 charges also include Reid Gardner separation costs that are allocated to contractors based on theoretical energy use for years 1983-2010.

**TABLE B-16B Minimum OMP&R Component of Transportation Charge  
for Each Contractor for Off-Aqueduct Power Facilities <sup>a b</sup>**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |                      | FEATHER RIVER AREA |                 |                      |          | TOTAL STATE WATER PROJECT (c) |
|---------------|--------------------------------------|--|--|----------------------|--------------------|-----------------|----------------------|----------|-------------------------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total                | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total    |                               |
| [29]          | [30]                                 | [31]   | [32]   | [33]                 | [34]               | [35]            | [36]                 | [37]     |                               |
| 1971          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1972          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1973          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1974          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1975          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1976          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1977          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1978          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1979          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1980          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1981          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1982          | 0                                    | 0  | 0  | 0                    | 0                  | 0               | 0                    | 0        | 0                             |
| 1983          | 0                                    | 12,791,358   | 0  | 16,045,220           | 0                  | 0               | 0                    | 0        | 20,182,468                    |
| 1984          | 0                                    | 39,229,567   | 0  | 47,840,887           | 0                  | 0               | 0                    | 0        | 60,556,781                    |
| 1985          | 0                                    | 77,446,523   | 0  | 89,844,437           | 0                  | 0               | 0                    | 0        | 108,590,343                   |
| 1986          | 0                                    | 77,581,287   | 0  | 90,192,510           | 0                  | 0               | 0                    | 0        | 107,702,921                   |
| 1987          | 0                                    | 68,939,195   | 0  | 82,614,055           | 0                  | 0               | 0                    | 0        | 99,411,597                    |
| 1988          | 0                                    | 79,936,309   | 0  | 92,720,660           | 0                  | 0               | 0                    | 0        | 108,898,833                   |
| 1989          | 0                                    | 68,311,546   | 0  | 78,302,473           | 0                  | 0               | 0                    | 0        | 89,857,307                    |
| 1990          | 0                                    | 83,964,409   | 277,885                                      | 95,002,982           | 0                  | 0               | 0                    | 0        | 104,000,038                   |
| 1991          | 0                                    | 54,214,229   | 132,209                                      | 61,123,236           | 0                  | 0               | 0                    | 0        | 64,233,890                    |
| 1992          | 0                                    | 72,401,054   | 0  | 82,482,592           | 0                  | 0               | 0                    | 0        | 92,173,695                    |
| 1993          | 0                                    | 55,312,615   | 0  | 69,847,379           | 0                  | 0               | 0                    | 0        | 87,174,348                    |
| 1994          | 0                                    | 72,838,621   | 0  | 86,354,006           | 0                  | 0               | 0                    | 0        | 97,722,979                    |
| 1995          | 0                                    | 40,862,813   | 0  | 56,786,199           | 0                  | 0               | 0                    | 0        | 74,988,898                    |
| 1996          | 0                                    | 36,536,259   | 401  | 57,198,086           | 0                  | 0               | 0                    | 0        | 71,940,675                    |
| 1997          | 0                                    | 37,121,379   | 108,559                                      | 54,131,368           | 0                  | 0               | 0                    | 0        | 65,536,671                    |
| 1998          | 0                                    | 30,341,609   | 149,170                                      | 52,004,747           | 0                  | 0               | 0                    | 0        | 65,310,733                    |
| 1999          | 0                                    | 42,257,580   | 106,226                                      | 58,122,094           | 0                  | 0               | 0                    | 0        | 72,133,666                    |
| 2000          | 0                                    | 43,977,877   | 123,318                                      | 52,641,597           | 0                  | 0               | 0                    | 0        | 60,213,003                    |
| 2001          | 0                                    | 49,405,276   | 84,868                                       | 56,980,422           | 0                  | 0               | 0                    | 0        | 62,827,875                    |
| 2002          | 0                                    | 45,412,974   | 153,549                                      | 54,123,159           | 0                  | 0               | 0                    | 0        | 59,683,427                    |
| 2003          | 3,303                                | 41,917,356   | 129,134                                      | 48,071,447           | 0                  | 0               | 0                    | 0        | 53,245,891                    |
| 2004          | 44,648                               | 58,676,035   | 170,851                                      | 67,126,699           | 0                  | 0               | 0                    | 0        | 73,135,768                    |
| 2005          | 41,448                               | 56,220,579   | 61,131                                       | 66,633,000           | 0                  | 0               | 0                    | 0        | 75,946,420                    |
| 2006          | 265,078                              | 60,701,335   | 70,268                                       | 76,767,951           | 0                  | 0               | 0                    | 0        | 85,894,802                    |
| 2007          | 248,328                              | 61,354,857   | 119,861                                      | 76,763,990           | 0                  | 0               | 0                    | 0        | 83,828,015                    |
| 2008          | 616,986                              | 72,144,765   | 300,729                                      | 93,579,549           | 0                  | 0               | 0                    | 0        | 102,461,628                   |
| 2009          | 819,589                              | 71,530,603   | 313,357                                      | 93,493,811           | 0                  | 0               | 0                    | 0        | 102,494,682                   |
| 2010          | 1,048,807                            | 88,263,837   | 322,003                                      | 117,224,130          | 0                  | 0               | 0                    | 0        | 128,041,372                   |
| 2011          | 954,501                              | 80,381,761   | 225,564                                      | 100,750,481          | 0                  | 0               | 0                    | 0        | 113,077,670                   |
| 2012          | 1,225,982                            | 78,031,474   | 299,385                                      | 110,930,715          | 0                  | 0               | 0                    | 0        | 121,679,593                   |
| 2013          | 670,340                              | 49,863,682   | 143,769                                      | 62,863,674           | 0                  | 0               | 0                    | 0        | 70,845,755                    |
| 2014          | 292,797                              | 30,563,068   | 60,891                                       | 37,659,238           | 0                  | 0               | 0                    | 0        | 43,856,442                    |
| 2015          | 121,140                              | 14,604,834   | 32,636                                       | 19,045,808           | 0                  | 0               | 0                    | 0        | 21,332,906                    |
| 2016          | 94,129                               | 6,550,150  | 16,727                                       | 9,008,054            | 0                  | 0               | 0                    | 0        | 9,917,696                     |
| 2017          | 92,508                               | 6,424,491  | 16,406                                       | 8,836,499            | 0                  | 0               | 0                    | 0        | 9,728,690                     |
| 2018          | 37,263                               | 2,585,173  | 6,602  | 3,555,787            | 0                  | 0               | 0                    | 0        | 3,914,799                     |
| 2019          | 37,253                               | 2,587,634  | 19,843                                       | 3,552,284            | 0                  | 0               | 0                    | 0        | 3,905,256                     |
| 2020          | 40,422                               | 2,807,795  | 21,531                                       | 3,856,141            | 0                  | 0               | 0                    | 0        | 4,239,144                     |
| 2021          | 59,032                               | 4,100,473  | 31,444                                       | 5,633,967            | 0                  | 0               | 0                    | 0        | 6,193,301                     |
| 2022          | 55,887                               | 3,882,004  | 29,768                                       | 5,336,458            | 0                  | 0               | 0                    | 0        | 5,865,991                     |
| 2023          | 40,996                               | 2,847,625  | 21,836                                       | 3,916,270            | 0                  | 0               | 0                    | 0        | 4,304,706                     |
| 2024          | 30,641                               | 2,128,367  | 16,321                                       | 2,928,552            | 0                  | 0               | 0                    | 0        | 3,218,876                     |
| 2025          | 5,014                                | 348,313  | 2,671  | 479,478              | 0                  | 0               | 0                    | 0        | 526,990                       |
| 2026          | 6,288                                | 436,763  | 3,349  | 601,402              | 0                  | 0               | 0                    | 0        | 660,980                       |
| 2027          | 9,357                                | 649,922  | 4,984  | 895,210              | 0                  | 0               | 0                    | 0        | 983,864                       |
| 2028          | 6,491                                | 450,846  | 3,457  | 621,172              | 0                  | 0               | 0                    | 0        | 682,671                       |
| 2029          | 6,458                                | 448,599  | 3,440  | 618,316              | 0                  | 0               | 0                    | 0        | 679,508                       |
| 2030          | 1,936                                | 134,458  | 1,031  | 185,389              | 0                  | 0               | 0                    | 0        | 203,730                       |
| 2031          | 1,930                                | 134,088  | 1,028  | 184,970              | 0                  | 0               | 0                    | 0        | 203,261                       |
| 2032          | 1,980                                | 137,517  | 1,055  | 189,784              | 0                  | 0               | 0                    | 0        | 208,542                       |
| 2033          | 1,964                                | 136,390  | 1,046  | 188,312              | 0                  | 0               | 0                    | 0        | 206,917                       |
| 2034          | 1,944                                | 135,049  | 1,036  | 186,542              | 0                  | 0               | 0                    | 0        | 204,964                       |
| 2035          | 1,981                                | 137,608  | 1,055  | 190,162              | 0                  | 0               | 0                    | 0        | 208,933                       |
| <b>TOTAL</b>  | <b>6,886,420</b>                     | <b>1,890,199,931</b>                                   | <b>3,590,392</b>                             | <b>2,356,233,352</b> | <b>0</b>           | <b>0</b>        | <b>0</b>             | <b>0</b> | <b>2,705,039,911</b>          |

(a) 1983 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include both debt service and bond cover.

(b) 2009 through 2015 charges also include Reid Gardner separation costs that are allocated to contractors based on theoretical energy use for years 1983-2010.

(c) Costs allocated to contractors in 1989 through 2002 are reduced by credits for Off-Aqueduct Power Facility costs allocated to the pumping of non-SWP water.

**TABLE B-17 Unit Variable OMP&R Component of Transportation Charge**

(in dollars per acre-foot)

Sheet 1 of 5

| Calendar Year | NORTH BAY AQUEDUCT                        |                      |  |                      |  |                      | SOUTH BAY AQUEDUCT                                       |                      | CALIFORNIA AQUEDUCT               |                      |
|---------------|---|----------------------|--|----------------------|--|----------------------|--|----------------------|-----------------------------------|----------------------|
|               | Reach 1<br>Barker Slough<br>Pumping Plant |                      | Reach 3A<br>Cordelia Pumping Plant<br>Solano County WA |                      | Reach 3B<br>Cordelia Pumping Plant<br>Napa County FC&WCD (a) |                      | Reach 1<br>South Bay and Del Valle<br>Pumping Plants (b) |                      | Reach 1<br>Banks<br>Pumping Plant |                      |
|               | Unit Rate                                 | Cumulative Unit Rate | Unit Rate  | Cumulative Unit Rate | Unit Rate  | Cumulative Unit Rate | Unit Rate  | Cumulative Unit Rate | Unit Rate                         | Cumulative Unit Rate |
|               | [1]                                       | [2]                  | [3]  | [4]                  | [5]  | [6]                  | [7]  | [8]                  | [9]                               | [10]                 |
| 1961          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 4.1511341  | 4.1511341            | 0                                 | 0                    |
| 1962          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 4.5639383  | 4.5639383            | 0                                 | 0                    |
| 1963          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 3.5452154  | 3.5452154            | 0                                 | 0                    |
| 1964          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 4.1911773  | 4.1911773            | 0                                 | 0                    |
| 1965          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 3.5074573  | 3.5074573            | 0                                 | 0                    |
| 1966          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 4.1752198  | 4.1752198            | 0.2445431                         | 0.2445431            |
| 1967          | 0   | 0                    | 0  | 0                    | 0  | 0                    | 3.9306767  | 3.9306767            | 0.2281686                         | 0.9030996            |
| 1968          | 0   | 0                    | 0  | 0                    | 5.7570017  | 5.7570017            | 3.3315620  | 4.8750942            | 1.5435322                         | 1.5435322            |
| 1969          | 0   | 0                    | 0  | 0                    | 3.1823595  | 3.1823595            | 3.6949019  | 4.8016170            | 1.1067151                         | 1.1067151            |
| 1970          | 0   | 0                    | 0  | 0                    | 3.7584301  | 3.7584301            | 4.4256141  | 5.3721490            | 0.9465349                         | 0.9465349            |
| 1971          | 0   | 0                    | 0  | 0                    | 4.2082507  | 4.2082507            | 3.8714396  | 4.7522833            | 0.8808437                         | 0.8808437            |
| 1972          | 0   | 0                    | 0  | 0                    | 3.9577735  | 3.9577735            | 4.3250690  | 5.2281686            | 0.9030996                         | 0.9030996            |
| 1973          | 0   | 0                    | 0  | 0                    | 3.8103903  | 3.8103903            | 5.2455409  | 6.1841801            | 0.9386391                         | 0.9386391            |
| 1974          | 0   | 0                    | 0  | 0                    | 3.5878850  | 3.5878850            | 6.3321503  | 7.2293909            | 0.8972406                         | 0.8972406            |
| 1975          | 0   | 0                    | 0  | 0                    | 2.1606725  | 2.1606725            | 3.7365711  | 4.8327731            | 1.0962020                         | 1.0962020            |
| 1976          | 0   | 0                    | 0  | 0                    | 2.9283909  | 2.9283909            | 4.5191527  | 5.7132795            | 1.1941268                         | 1.1941268            |
| 1977          | 0   | 0                    | 0  | 0                    | 2.7516411  | 2.7516411            | 4.7630172  | 6.5309908            | 1.7679736                         | 1.7679736            |
| 1978          | 0   | 0                    | 0  | 0                    | 3.5949619  | 3.5949619            | 5.2086183  | 6.8200210            | 1.6114026                         | 1.6114026            |
| 1979          | 0   | 0                    | 0  | 0                    | 2.4747752  | 2.4747752            | 4.9524184  | 7.0944849            | 2.1420665                         | 2.1420665            |
| 1980          | 0   | 0                    | 0  | 0                    | 2.9737588  | 2.9737588            | 4.5186576  | 5.8810391            | 1.3623815                         | 1.3623815            |
| 1981          | 0   | 0                    | 0  | 0                    | 2.6488168  | 2.6488168            | 4.3834851  | 6.4541818            | 2.0706967                         | 2.0706967            |
| 1982          | 0   | 0                    | 0  | 0                    | 10.0222589   | 10.0222589           | 5.6383622  | 7.4005197            | 1.7621575                         | 1.7621575            |
| 1983          | 0   | 0                    | 0  | 0                    | 1.0240490  | 1.0240490            | 0.8686401  | 1.7143948            | 0.8457546                         | 0.8457546            |
| 1984          | 0   | 0                    | 0  | 0                    | 1.6496750  | 1.6496750            | 2.7674018  | 3.9368186            | 1.1694168                         | 1.1694168            |
| 1985          | 0   | 0                    | 0  | 0                    | 2.5224065  | 2.5224065            | 3.6942206  | 5.2987621            | 1.6045415                         | 1.6045415            |
| 1986          | 0   | 0                    | 0  | 0                    | 4.4049446  | 4.4049446            | 7.2799222  | 10.5919298           | 3.3120077                         | 3.3120077            |
| 1987          | 0   | 0                    | 0  | 0                    | 3.5386715  | 3.5386715            | 6.4837861  | 9.2276309            | 2.7438448                         | 2.7438448            |
| 1988          | 1.1782643                                 | 1.1782643            | 0  | 1.1782643            | 4.4547478  | 5.6330121            | 6.1750026  | 8.8623074            | 2.6873049                         | 2.6873049            |
| 1989          | 1.2715449                                 | 1.2715449            | 2.5423866  | 3.8139316            | 4.2807103  | 5.5522525            | 8.1617218  | 11.6840191           | 3.5222973                         | 3.5222973            |
| 1990          | 2.0026083                                 | 2.0026083            | 4.2324041  | 6.2350124            | 5.8753602  | 7.8779685            | 11.7200790   | 15.8516543           | 4.1315753                         | 4.1315753            |
| 1991          | 1.2486830                                 | 1.2486830            | 2.6246433  | 3.8733263            | 3.8057971  | 5.0544801            | 7.5402615  | 11.2354099           | 3.6951485                         | 3.6951485            |
| 1992          | 0.7094386                                 | 0.7094386            | 1.4175705  | 2.1270091            | 2.3509123  | 3.0630359            | 4.0600958  | 6.3925272            | 2.3324315                         | 2.3324315            |
| 1993          | -0.3464574                                | -0.3464574           | -0.6048649   | -0.9513223           | -1.0200530   | -1.3665104           | -1.4299294   | -1.2571378           | 0.2358556                         | 0.2358556            |
| 1994          | 1.4600287                                 | 1.4600287            | 2.6570107  | 4.1170394            | 4.2975560  | 5.7575847            | 7.9510779  | 11.2405895           | 3.2895116                         | 3.2895116            |
| 1995          | 0.7544766                                 | 0.7544766            | 1.2974265  | 2.0519031            | 2.2753763  | 3.0298529            | 3.2312761  | 5.2610469            | 2.0297708                         | 2.0297708            |
| 1996          | 1.6427835                                 | 1.6427835            | 2.7704025  | 4.4131859            | 4.7993051  | 6.4420886            | 8.0186492  | 11.3633990           | 3.3447498                         | 3.3447498            |
| 1997          | 1.7801484                                 | 1.7801484            | 3.0246843  | 4.8048327            | 5.0575904  | 6.8377388            | 9.6521246  | 12.6148370           | 2.9627125                         | 2.9627125            |
| 1998          | -0.3253238                                | -0.3253238           | -0.5570754   | -0.8823992           | -0.9104311   | -1.2357549           | -1.8866894   | -1.7684350           | 0.1182544                         | 0.1182544            |
| 1999          | 0.7843563                                 | 0.7843563            | 1.2927037  | 2.0770600            | 2.1913971  | 2.9757534            | 3.9861234  | 6.3557474            | 2.3696240                         | 2.3696240            |
| 2000          | 1.7300176                                 | 1.7300176            | 1.8775164  | 3.6075340            | 2.8896148  | 4.6196324            | 6.0338390  | 8.2478290            | 2.2139900                         | 2.2139900            |
| 2001          | 10.0430980                                | 10.0430980           | 12.6732715   | 22.7163696           | 22.9041445   | 32.9472425           | 42.6443270   | 55.5130485           | 12.8687216                        | 12.8687216           |
| 2002          | 5.1561098                                 | 5.1561098            | 5.3026984  | 10.4588082           | 8.9411156  | 14.0972254           | 18.1280636   | 24.2060285           | 6.0779649                         | 6.0779649            |
| 2003          | 5.1470505                                 | 5.1470505            | 7.0925479  | 12.2395984           | 12.8073799   | 17.9543040           | 19.2954367   | 26.0245482           | 6.7291116                         | 6.7291116            |
| 2004          | 6.1803231                                 | 6.1803231            | 6.4041451  | 12.5846462           | 12.5865996   | 18.7669227           | 19.8212463   | 27.0762480           | 7.2550017                         | 7.2550017            |
| 2005          | 7.6496541                                 | 7.6496541            | 7.6521314  | 15.3017855           | 18.5155450   | 26.1651991           | 25.7918365   | 33.8520540           | 8.0602175                         | 8.0602175            |
| 2006          | 6.3411515                                 | 6.3411515            | 5.9418551  | 12.2830066           | 17.7807425   | 24.1218940           | 22.1272863   | 28.6764964           | 6.5492101                         | 6.5492101            |
| 2007          | 10.3140886                                | 10.3140886           | 8.0335196  | 18.3476082           | 22.5119243   | 32.8260129           | 31.2045272   | 40.2883862           | 9.0838590                         | 9.0838590            |
| 2008          | 8.5780412                                 | 8.5780412            | 9.4219804  | 18.0000216           | 20.9842547   | 29.5622960           | 27.2258607   | 38.9928813           | 11.7670206                        | 11.7670206           |
| 2009          | 6.8157853                                 | 6.8157853            | 7.3689097  | 14.1846950           | 15.6049670   | 22.4207523           | 23.3713636   | 29.7259538           | 6.3545902                         | 6.3545902            |
| 2010          | 6.6614422                                 | 6.6614422            | 6.6614422  | 8.6699171            | 15.3313594   | 16.6906881           | 23.3521303   | 24.7050636           | 35.6013934                        | 10.8957897           |
| 2011          | 7.8065749                                 | 7.8065749            | 8.9188708  | 16.7254457           | 20.1897685   | 27.9963434           | 29.9070627   | 40.6934613           | 10.7863987                        | 10.7863987           |
| 2012          | 7.9401148                                 | 7.9401148            | 10.0567251   | 17.9968399           | 19.6658813   | 27.6059962           | 32.1911050   | 42.8874349           | 10.6963299                        | 10.6963299           |
| 2013          | 11.7015615                                | 11.7015615           | 11.2964162   | 22.9979777           | 27.1673850   | 38.8689465           | 38.1762911   | 51.8467554           | 13.6704643                        | 13.6704643           |
| 2014          | 15.3370914                                | 15.3370914           | 5.9912436  | 21.3283350           | 28.4270180   | 43.7641094           | 46.1335831   | 61.9632777           | 15.8301446                        | 15.8301446           |
| 2015          | 9.3287511                                 | 9.3287511            | 18.1756000   | 27.5043511           | 23.5712400   | 32.8999910           | 40.2759602   | 56.5159100           | 16.2399498                        | 16.2399498           |
| 2016          | 9.1648490                                 | 9.1648490            | 17.8563122   | 27.0211612           | 23.1571183   | 32.3219672           | 41.7633208   | 58.0086213           | 16.2453005                        | 16.2453005           |
| 2017          | 12.2403461                                | 12.2403461           | 24.1227399   | 36.3630860           | 36.5117681   | 48.7521141           | 42.7397448   | 58.8037606           | 16.0640158                        | 16.0640158           |
| 2018          | 12.2403461                                | 12.2403461           | 24.1227399   | 36.3630860           | 36.5117681   | 48.7521141           | 42.7397448   | 55.9679817           | 13.2282369                        | 13.2282369           |
| 2019          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 57.2659549           | 14.5251559                        | 14.5251559           |
| 2020          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 57.1516392           | 14.4108402                        | 14.4108402           |
| 2021          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 59.0082392           | 16.2674402                        | 16.2674402           |
| 2022          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 57.8341543           | 15.0933553                        | 15.0933553           |
| 2023          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 58.8982633           | 16.1574643                        | 16.1574643           |
| 2024          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 56.9149056           | 14.1741066                        | 14.1741066           |
| 2025          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 56.7840766           | 14.0432796                        | 14.0432796           |
| 2026          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 56.9556397           | 14.2148407                        | 14.2148407           |
| 2027          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 54.8852855           | 12.1444865                        | 12.1444865           |
| 2028          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 59.3193195           | 16.5785205                        | 16.5785205           |
| 2029          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 59.5781091           | 16.8373101                        | 16.8373101           |
| 2030          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 54.6303845           | 11.8895855                        | 11.8895855           |
| 2031          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 57.6570586           | 14.9162596                        | 14.9162596           |
| 2032          | 12.2403513                                | 12.2403513           | 24.1227391   | 36.3630904           | 36.6408726   | 48.8812238           | 42.7407990   | 55.0554201           | 12.3146211                        | 12.3146211           |
| 2033</        |   |                      |  |                      |  |                      |  |                      |                                   |                      |

**TABLE B-17 Unit Variable OMP&R Component of Transportation Charge**

(in dollars per acre-foot)

Sheet 2 of 5

| Calendar Year | CALIFORNIA AQUEDUCT (continued)        |                      |   |                      |                                       |                      |  |                      |   |                      |
|---------------|--|----------------------|---|----------------------|---------------------------------------|----------------------|--|----------------------|---|----------------------|
|               | Reach 4<br>Dos Amigos<br>Pumping Plant |                      | Reach 14A<br>Buena Vista<br>Pumping Plant |                      | Reach 15A<br>Teerink<br>Pumping Plant |                      | Reach 16A<br>Chrisman<br>Pumping Plant |                      | Reach 17E<br>Edmonston<br>Pumping Plant |                      |
|               | Unit Rate                              | Cumulative Unit Rate | Unit Rate                                 | Cumulative Unit Rate | Unit Rate                             | Cumulative Unit Rate | Unit Rate                              | Cumulative Unit Rate | Unit Rate                               | Cumulative Unit Rate |
|               | [11]                                   | [12]                 | [13]                                      | [14]                 | [15]                                  | [16]                 | [17]                                   | [18]                 | [19]                                    | [20]                 |
| 1961          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1962          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1963          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1964          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1965          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1966          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1967          | 0                                      | 0                    | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1968          | 1.0732031                              | 2.6167353            | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1969          | 0.7028165                              | 1.8095316            | 0   | 0                    | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1970          | 0.7813430                              | 1.7278778            | 0.3333333                                 | 2.0612111            | 0                                     | 0                    | 0                                      | 0                    | 0                                       | 0                    |
| 1971          | 0.4125312                              | 1.2933749            | 1.1407617                                 | 2.4341366            | 0.7218469                             | 3.1559834            | 0                                      | 0                    | 0                                       | 0                    |
| 1972          | 0.5662758                              | 1.4693754            | 0.8894941                                 | 2.3588694            | 0.8040021                             | 3.1628715            | 1.8113853                              | 4.9742569            | 7.3206022                               | 12.2948591           |
| 1973          | 0.5996892                              | 1.5383283            | 0.8469026                                 | 2.3852309            | 1.0302066                             | 3.4154375            | 1.8458304                              | 5.2612679            | 7.4512435                               | 12.7125113           |
| 1974          | 0.5736894                              | 1.4709300            | 0.8122890                                 | 2.2832190            | 0.9665911                             | 3.2498101            | 1.7739395                              | 5.0237496            | 6.9004732                               | 11.9242227           |
| 1975          | 0.4606980                              | 1.5569000            | 0.7554447                                 | 2.3123448            | 0.8894108                             | 3.2017555            | 1.8682537                              | 5.0700092            | 6.9962702                               | 12.0662794           |
| 1976          | 0.5163828                              | 1.7105095            | 0.9081491                                 | 2.6186586            | 0.9640628                             | 3.5827214            | 2.1499640                              | 5.7326854            | 7.9384515                               | 13.6711369           |
| 1977          | 0.6138931                              | 2.3818668            | 0.9835371                                 | 3.3654038            | 1.2303967                             | 4.5958005            | 2.7357728                              | 7.3315733            | 9.9990004                               | 17.3305737           |
| 1978          | 0.4545898                              | 2.0659925            | 0.9044582                                 | 2.9704506            | 0.9762058                             | 3.9466564            | 1.8872449                              | 5.8339094            | 7.0810192                               | 12.9149206           |
| 1979          | 0.6587934                              | 2.8008600            | 1.0519199                                 | 3.8527798            | 1.1976258                             | 5.0504056            | 2.6012890                              | 7.6516946            | 9.6345625                               | 17.2862572           |
| 1980          | 0.8021465                              | 2.1645280            | 1.3516057                                 | 3.5161337            | 1.5041463                             | 5.0202800            | 3.1923433                              | 8.2126233            | 10.9860288                              | 19.1986521           |
| 1981          | 1.0923907                              | 3.1630874            | 1.2409168                                 | 4.4040042            | 1.3219771                             | 5.7259813            | 2.9592932                              | 8.6852745            | 9.9649551                               | 18.6502296           |
| 1982          | 0.8326785                              | 2.5948359            | 1.2041660                                 | 3.7990019            | 1.3723736                             | 5.1713756            | 2.8986491                              | 8.0700247            | 10.2096358                              | 18.2796606           |
| 1983          | 0.3647859                              | 1.2105406            | 0.7590265                                 | 1.9695670            | 0.8857383                             | 2.8855035            | 1.7623405                              | 4.6176458            | 5.5086367                               | 10.1262825           |
| 1984          | 0.6581523                              | 1.8275691            | 1.0533611                                 | 2.8809302            | 1.2188270                             | 4.0975727            | 2.5407768                              | 6.6405340            | 8.2344665                               | 14.8750006           |
| 1985          | 0.8726163                              | 2.4771579            | 1.4204831                                 | 3.8976409            | 1.6516291                             | 5.5492701            | 3.4695783                              | 9.0188484            | 11.8181234                              | 20.8369718           |
| 1986          | 1.3996542                              | 4.7116618            | 2.3713282                                 | 7.0829901            | 2.7567970                             | 9.8397871            | 5.9534613                              | 15.7932484           | 20.6010240                              | 36.3942724           |
| 1987          | 1.2912643                              | 4.0351091            | 2.2344385                                 | 6.2695476            | 2.5459999                             | 8.8155474            | 5.3141190                              | 14.1296664           | 17.7628277                              | 31.8924941           |
| 1988          | 1.1947837                              | 3.8820886            | 2.1129991                                 | 5.9950877            | 2.4017135                             | 8.3968012            | 5.0055748                              | 13.4023759           | 16.6001692                              | 30.0025452           |
| 1989          | 1.4935226                              | 5.0158199            | 2.6947446                                 | 7.7105645            | 3.0084211                             | 10.7189856           | 6.5499538                              | 17.2689394           | 22.1795336                              | 39.4484730           |
| 1990          | 1.8962463                              | 6.0278216            | 3.3080372                                 | 9.3358588            | 3.7483036                             | 13.0841624           | 8.6883268                              | 21.7674302           | 31.0405219                              | 52.8079521           |
| 1991          | 1.0437991                              | 4.7389476            | 2.11132495                                | 6.8521971            | 2.4154810                             | 9.2676780            | 5.6823745                              | 14.9500525           | 20.4744695                              | 35.4245220           |
| 1992          | 0.9002103                              | 3.2326417            | 1.4836761                                 | 4.7163178            | 1.7077297                             | 6.4240475            | 3.5445788                              | 9.9686263            | 12.0459599                              | 22.0145862           |
| 1993          | 0.1605206                              | 0.3963762            | -0.1405164                                | 0.2558598            | -0.1312944                            | 0.1245654            | -0.7754796                             | -0.6509143           | -3.5828989                              | -4.2338132           |
| 1994          | 1.4208578                              | 4.7103693            | 2.5100856                                 | 7.2204549            | 2.8029168                             | 10.0233717           | 6.0772944                              | 9.3301795            | 13.6776471                              | 23.0078267           |
| 1995          | 0.7974861                              | 2.8272569            | 1.3474564                                 | 4.1747133            | 1.9495529                             | 5.6692662            | 3.1250716                              | 8.7943378            | 10.7461772                              | 19.5405149           |
| 1996          | 1.6726383                              | 5.0173881            | 2.5952092                                 | 7.6125973            | 2.8425227                             | 10.4551200           | 6.3087407                              | 16.7638607           | 22.6420778                              | 39.4059385           |
| 1997          | 1.2769880                              | 4.2397005            | 2.5012144                                 | 6.7409148            | 2.6893394                             | 9.4302542            | 6.2890095                              | 15.7192637           | 23.0714697                              | 38.7907334           |
| 1998          | -0.2195574                             | -0.1013030           | -0.4232465                                | -0.5245494           | -0.4504610                            | -0.9750105           | -1.0585256                             | -2.0335361           | -3.8077856                              | -5.8413217           |
| 1999          | 0.8412976                              | 3.2109216            | 1.4071463                                 | 4.6180679            | 1.2831855                             | 5.9012534            | 3.4289262                              | 9.3301795            | 13.6776471                              | 23.0078267           |
| 2000          | 0.8831721                              | 3.0971621            | 1.5510989                                 | 4.6482610            | 1.7049532                             | 6.3532142            | 4.0192405                              | 10.3724547           | 14.7157795                              | 25.0882342           |
| 2001          | 6.1123778                              | 18.9810994           | 11.2648844                                | 30.2459837           | 12.3519389                            | 42.5979227           | 28.5490444                             | 71.1469671           | 106.8554939                             | 178.0024610          |
| 2002          | 2.6241510                              | 8.7021160            | 4.6014508                                 | 13.3035668           | 5.0195661                             | 18.3231329           | 11.6145173                             | 21.9376502           | 43.1568537                              | 73.0945038           |
| 2003          | 3.1202696                              | 9.8493811            | 5.5874811                                 | 15.4368622           | 6.0872217                             | 21.5240839           | 14.1581535                             | 35.6822374           | 52.6394569                              | 88.3216943           |
| 2004          | 3.3220914                              | 10.5770931           | 5.8515717                                 | 16.4286648           | 6.3561368                             | 22.7840816           | 14.8070070                             | 37.5918086           | 55.0408248                              | 92.6398334           |
| 2005          | 3.8070561                              | 11.8672735           | 6.8334388                                 | 18.7007123           | 7.4067583                             | 26.1074707           | 17.2234578                             | 43.3309284           | 62.0384555                              | 105.3693839          |
| 2006          | 2.9857429                              | 9.5349530            | 5.5659445                                 | 15.1008975           | 5.9905335                             | 21.0914310           | 14.0057497                             | 35.0971806           | 47.7171619                              | 82.8143425           |
| 2007          | 4.4313666                              | 13.5152256           | 7.9529931                                 | 21.4682187           | 8.6112177                             | 30.0794364           | 19.9664325                             | 50.0458689           | 69.3995205                              | 119.4453894          |
| 2008          | 4.4905784                              | 16.2575791           | 8.4139003                                 | 24.6714993           | 9.8204646                             | 34.4955639           | 30.3840313                             | 54.8795952           | 71.9661450                              | 126.8457402          |
| 2009          | 3.4320946                              | 9.7866848            | 6.2740716                                 | 16.0607564           | 6.9285369                             | 22.9892933           | 15.3431427                             | 38.3324360           | 59.3701267                              | 97.7025627           |
| 2010          | 4.0747593                              | 14.9705491           | 7.0093261                                 | 21.9798752           | 7.6057576                             | 29.5856327           | 17.4087090                             | 46.9937117           | 64.6193067                              | 111.6130184          |
| 2011          | 4.5474939                              | 15.3338925           | 8.0199977                                 | 23.3538903           | 8.6413007                             | 31.9951910           | 19.8891167                             | 51.8843076           | 70.6675111                              | 122.5518187          |
| 2012          | 4.8074262                              | 15.5037562           | 8.3861250                                 | 23.8898811           | 9.1381262                             | 33.0280073           | 21.1431750                             | 54.1711824           | 75.3688511                              | 129.5400335          |
| 2013          | 5.8247490                              | 19.4952133           | 10.1907200                                | 29.6859333           | 11.1181381                            | 40.8040714           | 25.7330307                             | 66.5373751           | 92.3259453                              | 158.8633204          |
| 2014          | 8.3575670                              | 24.1877116           | 12.8236738                                | 37.0113854           | 15.5496194                            | 52.5610048           | 38.5599639                             | 91.1209687           | 153.3216520                             | 244.4426207          |
| 2015          | 7.4231284                              | 23.6630782           | 12.5398944                                | 36.2029726           | 13.6253575                            | 49.8283301           | 31.6299903                             | 81.4583203           | 115.1133298                             | 196.5716501          |
| 2016          | 7.4173589                              | 23.6626595           | 12.5406872                                | 36.2033466           | 13.6262081                            | 49.8295547           | 31.6336735                             | 81.4632282           | 115.1373818                             | 196.6006100          |
| 2017          | 7.2017391                              | 23.2657549           | 12.8681034                                | 36.1338584           | 13.9146760                            | 50.0485344           | 32.2486031                             | 82.2971375           | 119.8682358                             | 202.1653733          |
| 2018          | 7.6508259                              | 20.8790628           | 13.9765949                                | 34.8556577           | 15.1908558                            | 50.0465135           | 35.2615559                             | 85.3080694           | 131.2236964                             | 216.5317659          |
| 2019          | 7.2363713                              | 21.7615271           | 12.9369202                                | 34.6984473           | 14.3003057                            | 48.697531            | 32.4511348                             | 81.1498878           | 120.6255406                             | 201.7754284          |
| 2020          | 7.3906749                              | 21.8015151           | 13.3228904                                | 35.1244055           | 14.4390386                            | 49.5634441           | 33.4856667                             | 83.0491108           | 124.5255164                             | 207.5746272          |
| 2021          | 7.3559552                              | 23.6233954           | 13.2356400                                | 36.8590355           | 14.3397576                            | 51.1987931           | 33.2514753                             | 84.4502684           | 123.6423903                             | 208.0926587          |
| 2022          | 7.4001775                              | 22.4935328           | 13.3470362                                | 35.8405690           | 14.4665376                            | 50.3071066           | 33.5505530                             | 83.8576596           | 124.7702656                             | 208.6279251          |
| 2023          | 7.4490016                              | 23.6064659           | 13.4704999                                | 37.0769658           | 14.6071665                            | 51.6841323           | 33.8824025                             | 85.5665348           | 126.0204040                             | 211.5858748          |
| 2024          | 7.3546314                              | 21.5287380           | 13.2327512                                | 34.7614893           | 14.3364971                            | 49.097863            | 33.2438062                             | 82.3417925           | 123.6135366                             | 205.9553291          |
| 2025          | 7.4287757                              | 21.4720554           | 13.4194085                                | 34.8914639           | 14.5489639                            | 49.4402477           | 33.7450517                             | 83.1854794           | 125.5039154                             | 208.6893948          |
| 2026          | 7.3143737                              | 21.5292144           | 13.1323391                                | 34.6615534           | 14.2223424                            | 48.8838959           | 32.9746165                             | 81.8585124           | 122.5987056                             | 204.4572180          |
| 2027          | 7.4457077                              | 19.5901941           | 13.4622487                                | 33.0524428           | 14.5977697                            | 47.6502124           | 33.8860229                             | 81.5104423           | 125.9384056                             | 207.4488480          |
| 2028          | 7.3511401                              | 23.9296606           | 13.2244137                                | 37.1540743           | 14.3270375                            | 51.4811118           | 33.2215152                             | 84.7026270           | 123.5295523                             | 208.2321793          |
| 2029          | 7.4178659                              | 24.2551760           | 13.3920420                                | 37.6472179           | 14.5178052                            | 52.1650232           | 33.6715364                             | 85.8365595           | 125.2266450                             | 211.0632045          |
| 2030          | 7.3251160                              | 19.2147014           | 13.1596495                                | 32.3743509           | 14.2534143                            | 46.6277653           | 33.0479071                             | 79.6756724           | 122.8750733                             | 202.5507456          |
| 2031          | 7.7078640                              | 2                    |   |                      |                                       |                      |  |                      |   |                      |

**TABLE B-17 Unit Variable OMP&R Component of Transportation Charge**

(in dollars per acre-foot)

Sheet 3 of 5

| Calendar Year | CALIFORNIA AQUEDUCT (continued)  |                      |   |                      |   |                      |   |                      |
|---------------|----------------------------------|----------------------|---|----------------------|---|----------------------|---|----------------------|
|               | Reach 18A<br>Alamo<br>Powerplant |                      | Reach 22B<br>Pearblossom<br>Pumping Plant |                      | Reach 23<br>Mojave Siphon<br>Powerplant |                      | Reach 26A<br>Devil Canyon<br>Powerplant |                      |
|               | Unit Rate                        | Cumulative Unit Rate | Unit Rate                                 | Cumulative Unit Rate | Unit Rate                               | Cumulative Unit Rate | Unit Rate                               | Cumulative Unit Rate |
|               | [21]                             | [22]                 | [23]                                      | [24]                 | [25]                                    | [26]                 | [27]                                    | [28]                 |
| 1961          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1962          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1963          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1964          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1965          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1966          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1967          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1968          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1969          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1970          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1971          | 0                                | 0                    | 0   | 0                    | 0                                       | 0                    | 0                                       | 0                    |
| 1972          | 0                                | 0                    | 1.9331104                                 | 14.2279695           | 0                                       | 0                    | -2.3717647                              | 11.8562048           |
| 1973          | 0                                | 0                    | 3.8751940                                 | 16.5877053           | 0                                       | 0                    | -8.9027252                              | 7.6849801            |
| 1974          | 0                                | 0                    | 3.1602116                                 | 15.0844343           | 0                                       | 0                    | -5.3440968                              | 9.7403376            |
| 1975          | 0                                | 0                    | 3.0210558                                 | 15.0873353           | 0                                       | 0                    | -5.7803309                              | 9.3070043            |
| 1976          | 0                                | 0                    | 3.7579009                                 | 17.4290378           | 0                                       | 0                    | -6.6439666                              | 10.7850713           |
| 1977          | 0                                | 0                    | 3.0796474                                 | 20.4102211           | 0                                       | 0                    | -12.0911833                             | 8.3190378            |
| 1978          | 0                                | 0                    | 4.0233030                                 | 16.9382236           | 0                                       | 0                    | -8.2569506                              | 8.6812730            |
| 1979          | 0                                | 0                    | 5.0776468                                 | 22.3639040           | 0                                       | 0                    | -9.7140035                              | 12.6499005           |
| 1980          | 0                                | 0                    | 4.3918283                                 | 23.5904804           | 0                                       | 0                    | -8.3797007                              | 15.2107797           |
| 1981          | 0                                | 0                    | 3.9973528                                 | 22.6475824           | 0                                       | 0                    | -6.7528590                              | 15.8947235           |
| 1982          | 0                                | 0                    | 3.6829998                                 | 21.9626604           | 0                                       | 0                    | -6.9238898                              | 15.0387706           |
| 1983          | 0                                | 0                    | 1.7205305                                 | 11.8468130           | 0                                       | 0                    | -23.7923457                             | -11.9455328          |
| 1984          | 0                                | 0                    | 2.4763871                                 | 17.3513877           | 0                                       | 0                    | -29.2940447                             | -11.9426570          |
| 1985          | 0                                | 0                    | 3.4967556                                 | 24.3337274           | 0                                       | 0                    | -30.7672356                             | -6.4335082           |
| 1986          | -2.3583180                       | 34.0359544           | 5.9864597                                 | 40.0224141           | 0                                       | 0                    | -29.2499580                             | 10.7724561           |
| 1987          | -2.5482255                       | 29.3442686           | 5.0535029                                 | 34.3977715           | 0                                       | 0                    | -29.7006534                             | 4.6971181            |
| 1988          | -1.3847067                       | 28.6178385           | 4.7392460                                 | 33.3570844           | 0                                       | 0                    | -29.0334518                             | 4.3236326            |
| 1989          | -1.1019487                       | 38.3465243           | 6.4066114                                 | 44.7531357           | 0                                       | 0                    | -28.3706997                             | 16.3824360           |
| 1990          | -1.0673268                       | 51.7402653           | 8.9787944                                 | 60.7194197           | 0                                       | 0                    | -28.8797266                             | 31.8396931           |
| 1991          | -1.5206590                       | 33.9038630           | 6.0785417                                 | 39.9824047           | 0                                       | 0                    | -30.3294563                             | 9.6529484            |
| 1992          | -2.6080003                       | 19.4065859           | 3.6219501                                 | 23.0285360           | 0                                       | 0                    | -29.7938993                             | -6.7653633           |
| 1993          | -0.1885524                       | -4.4223656           | -1.0192774                                | -5.4416430           | 0                                       | 0                    | -30.6629489                             | -36.1045919          |
| 1994          | -0.1279266                       | 37.4728379           | 6.4513573                                 | 43.9241952           | 0                                       | 0                    | -30.4781656                             | 13.4460296           |
| 1995          | -3.4425314                       | 16.0979836           | 3.3643070                                 | 19.4622905           | 0                                       | 0                    | -30.3517624                             | -10.8894719          |
| 1996          | -5.9839345                       | 33.4220040           | 6.6794995                                 | 40.1015035           | -2.3423415                              | 37.7591620           | -29.5900574                             | 8.1691046            |
| 1997          | -4.7847600                       | 34.0059734           | 6.8397922                                 | 40.8457656           | -3.8632009                              | 36.9825646           | -30.6066647                             | 6.3758999            |
| 1998          | -5.0614104                       | -10.9027321          | -1.3239652                                | -12.2266973          | -3.7700558                              | -15.9967531          | -30.4293072                             | -46.4260603          |
| 1999          | -4.8990186                       | 18.1088081           | 3.7378677                                 | 21.8466757           | -5.1563836                              | 16.6902921           | -30.2385322                             | -13.5482400          |
| 2000          | -5.3488706                       | 19.7393636           | 4.3552151                                 | 24.0945787           | -5.1804371                              | 18.9141416           | -30.2852311                             | -11.3710894          |
| 2001          | -4.6452108                       | 173.3572502          | 29.9523513                                | 203.3096015          | -5.7699537                              | 197.5396478          | -30.9018397                             | 166.6378081          |
| 2002          | -5.4660286                       | 67.6284752           | 12.9716035                                | 80.6000788           | -6.4072101                              | 74.1928686           | -30.1661590                             | 44.0267096           |
| 2003          | -3.3142156                       | 85.0074786           | 15.4308820                                | 100.4383606          | -7.1779336                              | 93.2604270           | -30.3892607                             | 62.8711664           |
| 2004          | -5.5767140                       | 87.0631195           | 16.1802355                                | 103.2433550          | -7.4292488                              | 95.8141062           | -30.2389380                             | 65.5751682           |
| 2005          | -5.5017080                       | 99.8676759           | 17.8281118                                | 117.6957877          | -6.6110924                              | 111.0846953          | -30.2939296                             | 80.7907657           |
| 2006          | -3.1387155                       | 79.6756270           | 13.7752032                                | 93.4508303           | -5.4976224                              | 87.9532078           | -29.8005787                             | 58.1526291           |
| 2007          | -2.7809494                       | 116.6643950          | 20.2594364                                | 136.9238314          | -6.1785168                              | 130.7453146          | -30.0961198                             | 100.6491949          |
| 2008          | -5.4028716                       | 121.4428686          | 20.2854899                                | 141.7283585          | -6.0198040                              | 135.7085544          | -30.7631237                             | 104.9454308          |
| 2009          | -6.3446583                       | 91.3579044           | 19.9540519                                | 111.3119564          | -5.4878080                              | 105.8241484          | -33.3163093                             | 72.5078390           |
| 2010          | -5.1259757                       | 106.4870427          | 18.7304325                                | 125.2210752          | -6.4398404                              | 118.7123439          | -28.6783430                             | 90.1028918           |
| 2011          | -5.2103711                       | 117.3414476          | 20.7550215                                | 138.0964691          | -7.1272044                              | 130.9692647          | -29.9982569                             | 100.9710078          |
| 2012          | -2.7221204                       | 126.8179131          | 22.2013451                                | 149.0192582          | -11.4254128                             | 137.5938454          | -30.6216868                             | 106.9721586          |
| 2013          | -3.7639388                       | 155.0993816          | 27.1948280                                | 182.2492096          | -10.3251093                             | 171.9241003          | -30.7664075                             | 141.1576928          |
| 2014          | -12.3236334                      | 232.1189873          | 55.1425768                                | 287.2615641          | -17.0669496                             | 270.1946145          | -39.1744193                             | 231.0201952          |
| 2015          | <b>-9.0598771</b>                | <b>187.5117731</b>   | <b>38.4090352</b>                         | <b>225.9208082</b>   | <b>-14.3989058</b>                      | <b>211.5219024</b>   | <b>-33.4108822</b>                      | <b>178.1102022</b>   |
| 2016          | -9.0195693                       | 187.5810408          | 38.3183424                                | 225.8993832          | -14.3215338                             | 211.5778493          | -33.2163273                             | 178.3615220          |
| 2017          | -8.2492248                       | 193.9161485          | 33.7980365                                | 227.7141851          | -12.5020975                             | 215.1938875          | -29.9843246                             | 185.2095629          |
| 2018          | -9.0704907                       | 207.4612751          | 37.6987062                                | 245.1599813          | -14.0151913                             | 231.1447900          | -31.2299589                             | 199.9148311          |
| 2019          | -8.0895002                       | 193.6859528          | 33.3498556                                | 227.0357838          | -12.6152709                             | 214.4205129          | -29.7782600                             | 184.6422529          |
| 2020          | -8.3640525                       | 199.2105747          | 34.5972069                                | 233.8077815          | -13.1512537                             | 220.6565278          | -31.0861440                             | 189.5703838          |
| 2021          | -8.3615571                       | 199.7311017          | 34.5066178                                | 234.2377194          | -13.1148339                             | 221.1228855          | -30.4351394                             | 190.6877462          |
| 2022          | -8.3814710                       | 200.2464542          | 34.5988919                                | 234.8453741          | -13.1519425                             | 221.6934315          | -29.9116009                             | 191.7818307          |
| 2023          | -8.5011636                       | 203.0874112          | 35.2154928                                | 238.3029040          | -13.4001201                             | 224.9027839          | -30.7405757                             | 194.1622082          |
| 2024          | -8.1741847                       | 197.7811444          | 33.6426745                                | 231.4236189          | -12.7680531                             | 218.6557658          | -30.3951255                             | 188.2606403          |
| 2025          | -8.4521783                       | 200.2372165          | 34.9273046                                | 235.1645211          | -13.2840569                             | 221.8804642          | -30.2481371                             | 191.6323271          |
| 2026          | -8.2251869                       | 196.2320312          | 33.9555766                                | 230.1876078          | -12.8935341                             | 217.2940736          | -30.5650504                             | 186.7290232          |
| 2027          | -8.4054302                       | 199.0434177          | 34.7110742                                | 233.7544919          | -13.1907479                             | 220.5574441          | -30.3923815                             | 190.1650626          |
| 2028          | -8.3174813                       | 199.9146979          | 34.3042033                                | 234.2189013          | -13.0334963                             | 221.1854049          | -30.6233221                             | 190.5620828          |
| 2029          | -8.3464468                       | 202.7167576          | 34.4981791                                | 237.2149367          | -13.1144148                             | 224.1034949          | -30.3111861                             | 193.7923088          |
| 2030          | -8.2794784                       | 194.2712672          | 34.1292129                                | 228.4004801          | -12.9632230                             | 215.4372571          | -30.4092294                             | 185.0280277          |
| 2031          | -8.6255785                       | 211.9434385          | 35.7349034                                | 247.6783418          | -13.6098561                             | 234.0687558          | -30.4951500                             | 203.5736058          |
| 2032          | -7.9764072                       | 187.8281038          | 32.8113791                                | 220.6394828          | -12.4353184                             | 208.2041644          | -29.7289089                             | 178.4752555          |
| 2033          | -8.6895775                       | 215.0991881          | 36.0337731                                | 251.1329612          | -13.7302783                             | 237.4026828          | -31.3297872                             | 206.0728957          |
| 2034          | -8.1155449                       | 190.4778400          | 33.3748599                                | 223.8526999          | -12.6607566                             | 211.1919433          | -29.6276939                             | 181.5642495          |
| 2035          | -8.7812102                       | 243.3174439          | 36.5266598                                | 279.8441037          | -13.9295844                             | 265.9145193          | -31.6531333                             | 234.2613860          |

**TABLE B-17 Unit Variable OMP&R Component of Transportation Charge**

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| Calendar Year | (in dollars per acre-foot)                  |                      |   |                      |   |                      |                                   |                      |
|---------------|---|----------------------|---|----------------------|---|----------------------|-----------------------------------|----------------------|
|               | CALIFORNIA AQUEDUCT (continued)             |                      |   |                      |   |                      |                                   |                      |
|               | Reach 2B (EBX)<br>Greenspot<br>Pump Station |                      | Reach 3A (EBX)<br>Crafton Hills<br>Pump Station |                      | Reach 4B (EBX)<br>Cherry Valley<br>Pump Station |                      | Reach 29A<br>Oso<br>Pumping Plant |                      |
|               | Unit Rate                                   | Cumulative Unit Rate | Unit Rate                                       | Cumulative Unit Rate | Unit Rate                                       | Cumulative Unit Rate | Unit Rate                         | Cumulative Unit Rate |
|               | [29]  | [30]                 | [31]  | [32]                 | [33]  | [34]                 | [35]                              | [36]                 |
| 1961          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1962          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1963          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1964          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1965          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1966          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1967          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1968          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1969          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1970          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1971          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0                    |
| 1972          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 1.1017349                         | 13.3965941           |
| 1973          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.7905574                         | 13.5030687           |
| 1974          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.7530214                         | 12.6772442           |
| 1975          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.8405850                         | 12.9068644           |
| 1976          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.7771828                         | 14.4483197           |
| 1977          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.6152458                         | 17.9458194           |
| 1978          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.5222831                         | 13.4372037           |
| 1979          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0.7045701                         | 17.9908273           |
| 1980          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 1.4269064                         | 20.6255585           |
| 1981          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.5684309            |
| 1982          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 19.7739190           |
| 1983          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.2818887            |
| 1984          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.7796296            |
| 1985          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 2.1683838            |
| 1986          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 3.2288411            |
| 1987          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 35.0197908           |
| 1988          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 32.9904032           |
| 1989          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 3.5262089            |
| 1990          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 3.6810660            |
| 1991          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 37.6098245           |
| 1992          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 23.9194204           |
| 1993          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 0.1569728            |
| 1994          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 40.6646149           |
| 1995          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.5724835            |
| 1996          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 42.5378346           |
| 1997          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 2.7928728            |
| 1998          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | -0.3226129           |
| 1999          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | -6.1639346           |
| 2000          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.8332567            |
| 2001          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 24.810833            |
| 2002          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 1.7274598            |
| 2003          | 0   | 0                    | 0   | 0                    | 0   | 0                    | 0                                 | 26.8156940           |
| 2004          | 20.6296577                                  | 86.2048259           | 21.3995735                                      | 107.6043994          | 8.6460880                                       | 116.2504874          | 6.4523495                         | 99.0921829           |
| 2005          | 18.8688199                                  | 99.6595856           | 17.9554272                                      | 117.6150128          | 3.7103613                                       | 121.3253741          | 7.2999794                         | 112.6693633          |
| 2006          | 17.8994354                                  | 76.0520645           | 22.1237217                                      | 98.1757862           | 23.2019703                                      | 121.3777565          | 5.3707600                         | 88.1851025           |
| 2007          | 22.1898981                                  | 122.8390929          | 29.3753773                                      | 152.2144702          | 81.5764972                                      | 233.7909674          | 8.2372156                         | 127.6826049          |
| 2008          | 18.8433579                                  | 123.7878786          | 25.2833027                                      | 149.0720914          | 10.4169482                                      | 159.4890395          | 8.9214655                         | 135.7672057          |
| 2009          | 17.1360330                                  | 89.6438720           | 22.4798573                                      | 112.1237293          | 5.1541149                                       | 117.2778442          | 6.4371364                         | 104.1396990          |
| 2010          | 17.9449307                                  | 108.0478225          | 24.4739521                                      | 132.5217746          | 3.9551715                                       | 136.4769461          | 7.9363896                         | 119.5494080          |
| 2011          | 18.9059273                                  | 119.8769352          | 25.3757379                                      | 145.2526731          | 3.8897083                                       | 149.1423814          | 8.4208404                         | 130.9726591          |
| 2012          | 20.2169299                                  | 127.1890886          | 27.6518992                                      | 154.8409878          | 4.9226976                                       | 159.7636853          | 8.9400466                         | 138.4800800          |
| 2013          | 24.9917855                                  | 166.1494783          | 34.3061012                                      | 200.4555795          | 7.5542245                                       | 208.0098040          | 11.1119460                        | 169.9752664          |
| 2014          | 57.5054478                                  | 288.5256429          | 72.6024564                                      | 361.1280994          | 14.6404834                                      | 375.7685827          | 16.3759804                        | 260.8186011          |
| 2015          | 44.0765896                                  | 222.1876098          | 55.0071291                                      | 277.1947389          | 11.3353474                                      | 288.5300863          | 11.5465203                        | 208.1181704          |
| 2016          | 44.2267823                                  | 222.5883043          | 55.1946050                                      | 277.7829093          | 11.3740466                                      | 289.1569559          | 11.5318874                        | 208.1324974          |
| 2017          | 48.4122351                                  | 233.6217980          | 60.4180154                                      | 294.0398134          | 12.4503976                                      | 306.4902110          | 14.0604725                        | 216.2258458          |
| 2018          | 48.4122351                                  | 242.3270662          | 60.4180154                                      | 308.7450816          | 12.4504817                                      | 321.1955633          | 15.2970839                        | 231.288498           |
| 2019          | 48.4122351                                  | 233.0544879          | 60.4180154                                      | 293.4725034          | 12.4504124                                      | 305.9229157          | 14.1221165                        | 215.8975449          |
| 2020          | 48.4122351                                  | 237.9826189          | 60.4180154                                      | 298.4006343          | 12.4504124                                      | 310.8510466          | 14.4972348                        | 222.0718619          |
| 2021          | 48.4122351                                  | 239.0999812          | 60.4180154                                      | 299.5179966          | 12.4504124                                      | 311.9684090          | 14.2819844                        | 222.3746432          |
| 2022          | 48.4122351                                  | 240.1940657          | 60.4180154                                      | 300.6120811          | 12.4504124                                      | 313.0624935          | 14.5724671                        | 223.2003922          |
| 2023          | 48.4122351                                  | 242.5744433          | 60.4180154                                      | 302.9924587          | 12.4504124                                      | 315.4428711          | 14.5801584                        | 226.1687342          |
| 2024          | 48.4122351                                  | 236.6728753          | 60.4180154                                      | 297.0908908          | 12.4504124                                      | 309.5413031          | 14.8265116                        | 220.7818407          |
| 2025          | 48.4122351                                  | 240.0445621          | 60.4180154                                      | 300.4625775          | 12.4504124                                      | 312.9129899          | 14.5970652                        | 223.2864600          |
| 2026          | 48.4122351                                  | 235.1412583          | 60.4180154                                      | 295.5592737          | 12.4504124                                      | 308.0096861          | 14.3004524                        | 218.7576704          |
| 2027          | 48.4122351                                  | 238.5772293          | 60.4180154                                      | 298.9953131          | 12.4504124                                      | 311.4457255          | 14.8680064                        | 222.3168543          |
| 2028          | 48.4122351                                  | 238.9743179          | 60.4180154                                      | 299.3923333          | 12.4504124                                      | 311.8427457          | 14.3724817                        | 222.6046609          |
| 2029          | 48.4122351                                  | 242.2045438          | 60.4180154                                      | 302.6225592          | 12.4504124                                      | 315.0729716          | 14.7793929                        | 225.8425974          |
| 2030          | 48.4122351                                  | 233.4402628          | 60.4180154                                      | 293.8582782          | 12.4504124                                      | 306.3086906          | 14.2792966                        | 216.8300422          |
| 2031          | 48.4122351                                  | 251.9858408          | 60.4180154                                      | 312.4038562          | 12.4504124                                      | 324.8542686          | 16.4260731                        | 236.9950900          |
| 2032          | 48.4122351                                  | 226.8874906          | 60.4180154                                      | 287.3055060          | 12.4504124                                      | 299.7559184          | 13.6425557                        | 209.4470666          |
| 2033          | 48.4122351                                  | 254.4851308          | 60.4180154                                      | 314.9031462          | 12.4504124                                      | 327.3535585          | 16.1203635                        | 239.9091291          |
| 2034          | 48.4122351                                  | 229.9764845          | 60.4180154                                      | 290.3945000          | 12.4504124                                      | 302.8449123          | 13.6510359                        | 212.2442028          |
| 2035          | 48.4122351                                  | 282.6736211          | 60.4180154                                      | 343.0916365          | 12.4504124                                      | 355.5420489          | 21.6572948                        | 273.7559489          |

**TABLE B-17 Unit Variable OMP&R Component of Transportation Charge**

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| Calendar Year | CALIFORNIA AQUEDUCT (continued)  |                      |                                    |                      |   |                      |   |                      |
|---------------|----------------------------------|----------------------|------------------------------------|----------------------|---|----------------------|---|----------------------|
|               | Reach 29G<br>Warne<br>Powerplant |                      | Reach 29J<br>Castaic<br>Powerplant |                      | Reach 31A<br>Las Perillas & Badger Hill<br>Pumping Plants |                      | Reach 33A<br>Devil's Den, Bluestone, and<br>Polonio Pass Pumping Plants |                      |
|               | Unit Rate                        | Cumulative Unit Rate | Unit Rate                          | Cumulative Unit Rate | Unit Rate   | Cumulative Unit Rate | Unit Rate   | Cumulative Unit Rate |
|               | [37]                             | [38]                 | [39]                               | [40]                 | [41]  | [42]                 | [43]  | [44]                 |
| 1961          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1962          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1963          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1964          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1965          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1966          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1967          | 0                                | 0                    | 0                                  | 0                    | 0   | 0                    | 0   | 0                    |
| 1968          | 0                                | 0                    | 0                                  | 0                    | 1.5014866   | 4.1182219            | 0   | 0                    |
| 1969          | 0                                | 0                    | 0                                  | 0                    | 1.2624066   | 3.0719381            | 0   | 0                    |
| 1970          | 0                                | 0                    | 0                                  | 0                    | 1.6309699   | 3.3588477            | 0   | 0                    |
| 1971          | 0                                | 0                    | 0                                  | 0                    | 1.4985537   | 2.7919286            | 0   | 0                    |
| 1972          | 0                                | 0                    | -2.9350830                         | 10.4615111           | 1.9517720   | 3.4211474            | 0   | 0                    |
| 1973          | 0                                | 0                    | -6.8099448                         | 6.6931239            | 1.5374531   | 3.0757814            | 0   | 0                    |
| 1974          | 0                                | 0                    | -7.4013274                         | 5.2759168            | 1.5168982   | 2.9878282            | 0   | 0                    |
| 1975          | 0                                | 0                    | -6.5604921                         | 6.3463723            | 1.1130304   | 2.6699305            | 0   | 0                    |
| 1976          | 0                                | 0                    | -6.7213324                         | 7.7269873            | 1.5685447   | 3.2790543            | 0   | 0                    |
| 1977          | 0                                | 0                    | -30.4985994                        | -12.5527800          | 1.7573375   | 4.1392043            | 0   | 0                    |
| 1978          | 0                                | 0                    | -9.0130187                         | 4.4241850            | 1.9429506   | 4.0089431            | 0   | 0                    |
| 1979          | 0                                | 0                    | -19.0478097                        | -1.0569824           | 1.5600341   | 4.3608941            | 0   | 0                    |
| 1980          | 0                                | 0                    | -20.5438586                        | 0.0816999            | 1.5124754   | 3.6770034            | 0   | 0                    |
| 1981          | 0                                | 0                    | -10.0059379                        | 10.2127225           | 1.5414199   | 4.7045073            | 0   | 0                    |
| 1982          | -2.1714430                       | 17.6024760           | -9.5987314                         | 8.0037446            | 1.7581649   | 4.3530008            | 0   | 0                    |
| 1983          | -8.9130752                       | 2.4950960            | -39.8193120                        | -37.3242160          | 0.1782765   | 1.3888171            | 0   | 0                    |
| 1984          | -15.0246012                      | 1.6300290            | -17.3126964                        | -15.6826674          | 0.8546712   | 2.6822403            | 0   | 0                    |
| 1985          | -14.7115359                      | 8.2938197            | -38.9450629                        | -30.6512432          | 1.2014351   | 3.6785929            | 0   | 0                    |
| 1986          | -14.1893653                      | 25.4337481           | -28.1596224                        | -2.7258742           | 2.2635886   | 6.9752505            | 0   | 0                    |
| 1987          | -14.8696165                      | 20.1501743           | -27.0536484                        | -6.9034741           | 1.9135072   | 5.9486162            | 0   | 0                    |
| 1988          | -14.7032843                      | 18.2871189           | -25.6857024                        | -7.3985835           | 1.7733386   | 5.6554272            | 0   | 0                    |
| 1989          | -14.4231503                      | 28.5515316           | -25.3986130                        | 3.1529186            | 2.4159040   | 7.4317239            | 0   | 0                    |
| 1990          | -14.1850383                      | 42.3039798           | -26.0776142                        | 16.2263657           | 3.7962150   | 9.8240367            | 0   | 0                    |
| 1991          | -14.7117804                      | 22.8979541           | -25.0234633                        | -2.1255092           | 2.4131016   | 7.1520492            | 0   | 0                    |
| 1992          | -14.6119940                      | 9.2994774            | -25.1951357                        | -15.8956583          | 1.2766372   | 4.5092789            | 0   | 0                    |
| 1993          | -10.3386607                      | -14.4155011          | -21.1218973                        | -35.5373984          | -1.1726172  | -0.7762411           | 0   | 0                    |
| 1994          | -14.7696788                      | 25.8949361           | -26.7437304                        | -0.8487943           | 2.3645104   | 7.0748798            | 0   | 0                    |
| 1995          | -12.2705974                      | 8.8424010            | -25.6907993                        | -16.8483983          | 2.5750402   | 5.4022971            | 0   | 0                    |
| 1996          | -14.8515762                      | 27.6862584           | -29.5639188                        | -1.8776604           | 2.5837041   | 7.6010922            | 0   | 0                    |
| 1997          | -14.9272063                      | 26.6563999           | -27.1541858                        | -0.4977859           | 2.7029648   | 6.9426653            | 24.4572499  | 31.3999152           |
| 1998          | -8.6695834                       | -14.8335180          | -22.2303491                        | -37.0638671          | -0.5072304  | -0.6085333           | -4.1828906  | -4.7914239           |
| 1999          | -14.9340263                      | 9.9070570            | -27.0443818                        | -17.1373248          | 1.3343489   | 4.5452705            | 9.5757906   | 14.1210611           |
| 2000          | -14.1657261                      | 12.6499679           | -26.9670096                        | -14.3170418          | 1.8229550   | 4.9201171            | 13.5385990  | 18.4587161           |
| 2001          | -16.7349304                      | 174.7602677          | -29.2914159                        | 145.4688518          | 12.3088319  | 31.2899313           | 93.1086637  | 124.3985950          |
| 2002          | -13.2004543                      | 64.7783923           | -23.7780808                        | 41.0003115           | 5.4523570   | 14.1544730           | 42.2356453  | 56.3901183           |
| 2003          | -13.9757172                      | 80.4725264           | -23.8496317                        | 56.6228947           | 6.3022279   | 16.1516090           | 48.5640992  | 64.7157082           |
| 2004          | -14.1574758                      | 84.9347071           | -25.2967499                        | 59.6379572           | 6.4411290   | 17.0182221           | 52.3954777  | 69.4136998           |
| 2005          | -14.2938796                      | 98.3754837           | -24.7472457                        | 73.6282381           | 8.1479703   | 20.0152438           | 61.7293546  | 81.7445984           |
| 2006          | -14.0865037                      | 74.0985988           | -23.8861273                        | 50.2124715           | 7.0959852   | 16.6309382           | 50.0974218  | 66.7283600           |
| 2007          | -12.5169061                      | 115.1656989          | -25.0603889                        | 90.1053100           | 9.7648568   | 23.2808242           | 72.3043660  | 95.5844486           |
| 2008          | -13.8809446                      | 121.8862611          | -29.0198140                        | 92.8664471           | 9.9459461   | 26.2035451           | 75.4497912  | 101.6533364          |
| 2009          | -10.4812491                      | 93.6584499           | -25.6776114                        | 67.9808385           | 7.4589135   | 17.2455983           | 69.0475734  | 86.2931716           |
| 2010          | -13.8211960                      | 105.7282121          | -26.2504816                        | 79.4777305           | 8.4190919   | 23.3896410           | 68.6053743  | 91.9950154           |
| 2011          | -14.1584994                      | 116.8141597          | -28.7386599                        | 88.0754999           | 9.7234628   | 25.0573554           | 85.2820471  | 110.3394025          |
| 2012          | -13.8982775                      | 124.5818026          | -25.6245942                        | 98.9572084           | 9.3577572   | 24.8615134           | 87.5384375  | 112.3999509          |
| 2013          | -14.3636631                      | 155.6115832          | -25.5768325                        | 130.0347508          | 13.0206940  | 32.5159074           | 99.1770155  | 131.6929229          |
| 2014          | -14.7790803                      | 246.0395209          | -24.7871529                        | 221.2523680          | 1.7432546   | 25.9309663           | 7.7138466   | 33.6448128           |
| 2015          | <b>-11.9967208</b>               | <b>196.1214496</b>   | <b>-20.2552855</b>                 | <b>175.8661641</b>   | <b>16.1429624</b>   | <b>39.8060405</b>    | <b>119.3785172</b>  | <b>159.1845577</b>   |
| 2016          | -11.9620031                      | 196.1704943          | -20.1721469                        | 175.9983474          | 16.0500822  | 39.7127417           | 119.0110019   | 158.7237435          |
| 2017          | -13.3598762                      | 202.8659696          | -22.8536636                        | 180.0123060          | 8.3289345   | 31.5946894           | 131.1465047   | 162.7411941          |
| 2018          | -14.5380652                      | 217.2907846          | -24.9039603                        | 192.3868243          | 8.3289345   | 29.2079973           | 131.1465047   | 160.3545020          |
| 2019          | -14.2572190                      | 201.6403259          | -22.9936882                        | 178.6466378          | 8.1619758   | 29.9235029           | 131.1465256   | 161.0700285          |
| 2020          | -14.5906910                      | 207.4811709          | -23.6182939                        | 183.8628770          | 8.1619758   | 29.9634908           | 131.1465256   | 161.1100164          |
| 2021          | -14.3714497                      | 208.0031934          | -23.2593917                        | 184.7438017          | 8.1619758   | 31.7853712           | 131.1465256   | 162.9318968          |
| 2022          | -14.7118974                      | 208.4884948          | -23.7429243                        | 184.7455705          | 8.1619758   | 30.6555086           | 131.1465005   | 161.8020091          |
| 2023          | -14.7161654                      | 211.4525678          | -23.7553889                        | 187.6971790          | 8.1619758   | 31.76884417          | 131.1465005   | 162.9149422          |
| 2024          | -14.9694008                      | 205.8124399          | -24.1656995                        | 181.6467404          | 8.1619758   | 29.6907138           | 131.1465256   | 160.8372394          |
| 2025          | -14.6844037                      | 208.6020563          | -23.7828148                        | 184.8192415          | 8.1619758   | 29.6340311           | 131.1465256   | 160.780567           |
| 2026          | -14.3876216                      | 204.3700488          | -23.2885319                        | 181.0815169          | 8.1619758   | 29.6911902           | 131.1465256   | 160.8377157          |
| 2027          | -14.9601339                      | 207.3567204          | -24.2340229                        | 183.1226976          | 8.1619758   | 27.7521699           | 131.1465256   | 158.8986955          |
| 2028          | -14.5049251                      | 208.0997358          | -23.4080124                        | 184.6917234          | 8.1619758   | 32.0916364           | 131.1465005   | 163.2381369          |
| 2029          | -14.9179504                      | 210.9246470          | -24.0857073                        | 186.8389397          | 8.1619758   | 32.4171517           | 131.1465005   | 163.5636522          |
| 2030          | -14.4111385                      | 202.4189037          | -23.2523334                        | 179.1665703          | 8.1619758   | 27.3766772           | 131.1465256   | 158.5232028          |
| 2031          | -16.5266991                      | 220.4683910          | -26.8372338                        | 193.6311572          | 8.1619758   | 30.7860994           | 131.1465256   | 161.9326250          |
| 2032          | -13.7212275                      | 195.7258392          | -22.1928873                        | 173.5329519          | 8.1619758   | 27.6113885           | 131.1465256   | 158.7579141          |
| 2033          | -16.2738531                      | 223.6352760          | -26.3242701                        | 197.3110059          | 8.1619758   | 34.3976653           | 131.1465005   | 165.5441658          |
| 2034          | -13.7363994                      | 198.5074815          | -22.2064219                        | 176.3010595          | 8.1619758   | 28.7174087           | 131.1465005   | 159.8639092          |
| 2035          | -21.8356579                      | 251.9202910          | -35.6707528                        | 216.2495382          | 8.1619758   | 40.8174677           | 131.1465005   | 171.9639682          |

## Tables B-18 through B-31

Note: Where applicable, the projected data values shown in this appendix are shaded and the bill year data are in **bold** type.

**TABLE B-18 Variable OMP&R Component of Transportation Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                  |            | SOUTH BAY AREA                |                               |                                   |             | CENTRAL COASTAL AREA          |                             |             |
|---------------|--------------------|------------------|------------|-------------------------------|-------------------------------|-----------------------------------|-------------|-------------------------------|-----------------------------|-------------|
|               | Napa County FC&WCD | Solano County WA | Total      | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total       | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total       |
| 1961          | 0                  | 0                | 0          | 0                             | 0                             | 0                                 | 0           | 0                             | 0                           | 0           |
| 1962          | 0                  | 0                | 0          | 2,051                         | 34,919                        | 0                                 | 36,970      | 0                             | 0                           | 0           |
| 1963          | 0                  | 0                | 0          | 7,900                         | 49,811                        | 0                                 | 57,711      | 0                             | 0                           | 0           |
| 1964          | 0                  | 0                | 0          | 5,931                         | 68,203                        | 0                                 | 74,134      | 0                             | 0                           | 0           |
| 1965          | 0                  | 0                | 0          | 10,918                        | 68,765                        | 62,926                            | 142,609     | 0                             | 0                           | 0           |
| 1966          | 0                  | 0                | 0          | 19,330                        | 52,135                        | 121,141                           | 192,605     | 0                             | 0                           | 0           |
| 1967          | 0                  | 0                | 0          | 19,958                        | 53,785                        | 163,255                           | 236,998     | 0                             | 0                           | 0           |
| 1968          | 6,989              | 0                | 6,989      | 29,899                        | 120,985                       | 341,768                           | 492,653     | 0                             | 0                           | 0           |
| 1969          | 8,551              | 0                | 8,551      | 31,859                        | 3,904                         | 298,968                           | 334,730     | 0                             | 0                           | 0           |
| 1970          | 13,598             | 0                | 13,598     | 49,687                        | 0                             | 431,443                           | 481,130     | 0                             | 0                           | 0           |
| 1971          | 10,609             | 0                | 10,609     | 23,842                        | 28,328                        | 416,329                           | 468,499     | 0                             | 0                           | 0           |
| 1972          | 14,434             | 0                | 14,434     | 54,838                        | 144,669                       | 524,208                           | 723,714     | 0                             | 0                           | 0           |
| 1973          | 14,449             | 0                | 14,449     | 18,398                        | 15,590                        | 547,807                           | 581,795     | 0                             | 0                           | 0           |
| 1974          | 17,473             | 0                | 17,473     | 9,499                         | 29                            | 636,186                           | 645,715     | 0                             | 0                           | 0           |
| 1975          | 14,779             | 0                | 14,779     | 22,318                        | 4,765                         | 425,284                           | 452,367     | 0                             | 0                           | 0           |
| 1976          | 20,856             | 0                | 20,856     | 97,874                        | 121,693                       | 502,769                           | 722,336     | 0                             | 0                           | 0           |
| 1977          | 22,635             | 0                | 22,635     | 82,578                        | 123,044                       | 497,792                           | 703,414     | 0                             | 0                           | 0           |
| 1978          | 21,692             | 0                | 21,692     | 74,911                        | 39,986                        | 652,860                           | 767,757     | 0                             | 0                           | 0           |
| 1979          | 16,237             | 0                | 16,237     | 137,101                       | 77,145                        | 652,629                           | 866,875     | 0                             | 0                           | 0           |
| 1980          | 19,945             | 0                | 19,945     | 98,743                        | 64,891                        | 517,531                           | 681,165     | 0                             | 0                           | 0           |
| 1981          | 23,842             | 0                | 23,842     | 126,437                       | 141,456                       | 567,968                           | 835,862     | 0                             | 0                           | 0           |
| 1982          | 12,157             | 0                | 12,157     | 97,117                        | 46,742                        | 651,246                           | 795,104     | 0                             | 0                           | 0           |
| 1983          | 2,342              | 0                | 2,342      | 8,171                         | 5,412                         | 148,743                           | 162,326     | 0                             | 0                           | 0           |
| 1984          | 4,822              | 0                | 4,822      | 26,707                        | 13,141                        | 349,314                           | 389,163     | 0                             | 0                           | 0           |
| 1985          | 10,188             | 0                | 10,188     | 79,863                        | 102,790                       | 466,291                           | 648,944     | 0                             | 0                           | 0           |
| 1986          | 15,501             | 0                | 15,501     | 112,370                       | 131,118                       | 932,090                           | 1,175,577   | 0                             | 0                           | 0           |
| 1987          | 27,223             | 0                | 27,223     | 216,211                       | 234,290                       | 812,631                           | 1,263,131   | 0                             | 0                           | 0           |
| 1988          | 31,265             | 11,533           | 42,798     | 229,578                       | 297,129                       | 779,537                           | 1,306,245   | 0                             | 0                           | 0           |
| 1989          | 37,874             | 66,850           | 104,724    | 306,533                       | 304,275                       | 1,051,562                         | 1,662,370   | 0                             | 0                           | 0           |
| 1990          | 54,736             | 105,421          | 160,157    | 524,114                       | 502,545                       | 1,456,008                         | 2,482,667   | 0                             | 0                           | 0           |
| 1991          | 8,159              | 18,824           | 26,983     | 105,736                       | 142,105                       | 316,839                           | 564,680     | 0                             | (2,636)                     | (2,636)     |
| 1992          | 12,515             | 23,808           | 36,323     | 93,772                        | 122,436                       | 273,849                           | 490,058     | 0                             | 0                           | 0           |
| 1993          | (7,223)            | (17,293)         | (24,516)   | (36,162)                      | (12,912)                      | (78,024)                          | (127,098)   | 0                             | 0                           | 0           |
| 1994          | 39,106             | 77,257           | 116,363    | 231,800                       | 257,533                       | 642,006                           | 1,131,340   | 0                             | 0                           | 0           |
| 1995          | 15,701             | 36,724           | 52,425     | 160,663                       | 93,610                        | 151,287                           | 405,560     | 0                             | 0                           | 0           |
| 1996          | 31,526             | 96,570           | 128,096    | 214,883                       | 186,694                       | 735,431                           | 1,137,008   | 502                           | 0                           | 502         |
| 1997          | 29,683             | 116,555          | 146,238    | 351,185                       | 219,799                       | 912,861                           | 1,483,845   | 34,932                        | 233,584                     | 268,516     |
| 1998          | (6,622)            | (19,825)         | (26,447)   | (8,777)                       | (18,989)                      | (72,459)                          | (100,225)   | (17,211)                      | (89,207)                    | (106,418)   |
| 1999          | 15,783             | 52,547           | 68,330     | 251,523                       | 188,675                       | 432,833                           | 873,031     | 52,855                        | 284,356                     | 337,211     |
| 2000          | 22,904             | 104,450          | 127,354    | 360,156                       | 227,824                       | 718,954                           | 1,306,935   | 73,133                        | 419,770                     | 492,903     |
| 2001          | 307,892            | 597,483          | 905,375    | 1,693,190                     | 999,457                       | 2,476,925                         | 5,169,572   | 532,799                       | 2,356,856                   | 2,889,655   |
| 2002          | 96,918             | 303,383          | 400,302    | 1,067,733                     | 640,899                       | 1,453,943                         | 3,162,575   | 245,579                       | 1,558,397                   | 1,803,976   |
| 2003          | 137,228            | 293,129          | 430,357    | 1,077,542                     | 648,145                       | 2,302,401                         | 4,028,088   | 288,179                       | 1,745,253                   | 2,033,432   |
| 2004          | 151,816            | 410,075          | 561,891    | 1,322,362                     | 623,001                       | 1,609,900                         | 3,555,263   | 289,108                       | 2,061,934                   | 2,351,042   |
| 2005          | 198,923            | 444,172          | 643,095    | 1,474,474                     | 843,629                       | 2,478,455                         | 4,796,559   | 347,496                       | 1,908,246                   | 2,255,742   |
| 2006          | 185,423            | 343,688          | 529,111    | 1,255,253                     | 709,977                       | 2,100,005                         | 4,065,234   | 280,860                       | 1,553,103                   | 1,833,962   |
| 2007          | 357,069            | 720,942          | 1,078,010  | 1,588,679                     | 887,548                       | 2,667,868                         | 5,144,095   | 360,927                       | 2,651,513                   | 3,012,439   |
| 2008          | 392,341            | 547,572          | 939,913    | 1,490,633                     | 730,439                       | 1,845,644                         | 4,066,716   | 345,825                       | 1,869,710                   | 2,215,534   |
| 2009          | 244,254            | 332,571          | 576,825    | 924,091                       | 549,365                       | 1,702,524                         | 3,175,980   | 327,988                       | 1,333,281                   | 1,661,269   |
| 2010          | 289,402            | 323,888          | 613,290    | 1,417,276                     | 659,143                       | 2,034,184                         | 4,110,603   | 345,625                       | 1,635,211                   | 1,980,837   |
| 2011          | 316,311            | 332,644          | 648,955    | 1,746,317                     | 947,093                       | 2,957,132                         | 5,650,542   | 421,386                       | 2,361,715                   | 2,783,101   |
| 2012          | 272,987            | 362,191          | 635,178    | 1,812,951                     | 688,011                       | 2,472,397                         | 4,973,359   | 443,305                       | 2,188,877                   | 2,632,182   |
| 2013          | 485,007            | 639,621          | 1,124,628  | 2,247,657                     | 1,147,676                     | 3,281,086                         | 6,676,419   | 484,762                       | 2,372,843                   | 2,857,605   |
| 2014          | 642,676            | 533,051          | 1,175,727  | 2,054,499                     | 1,036,354                     | 3,736,465                         | 6,827,317   | 249,544                       | 498,515                     | 748,059     |
| 2015          | 572,953            | 494,501          | 1,067,454  | 2,569,467                     | 1,424,201                     | 3,867,440                         | 7,861,108   | 2,161,726                     | 4,344,465                   | 6,506,191   |
| 2016          | 562,887            | 486,805          | 1,049,692  | 2,805,935                     | 1,399,926                     | 3,969,588                         | 8,175,449   | 2,155,468                     | 4,331,888                   | 6,487,357   |
| 2017          | 849,018            | 653,608          | 1,502,626  | 2,844,397                     | 1,417,815                     | 4,024,000                         | 8,286,212   | 2,210,025                     | 4,441,533                   | 6,651,558   |
| 2018          | 849,018            | 653,608          | 1,502,626  | 2,707,227                     | 1,347,163                     | 3,829,945                         | 7,884,335   | 2,177,614                     | 4,376,395                   | 6,554,009   |
| 2019          | 851,267            | 656,153          | 1,507,420  | 2,770,012                     | 1,443,102                     | 3,435,957                         | 7,649,071   | 1,992,919                     | 4,395,923                   | 6,388,843   |
| 2020          | 851,267            | 656,153          | 1,507,420  | 2,764,482                     | 1,440,221                     | 3,429,098                         | 7,633,802   | 1,993,414                     | 4,397,015                   | 6,390,429   |
| 2021          | 851,267            | 656,153          | 1,507,420  | 2,854,288                     | 1,487,008                     | 3,540,494                         | 7,881,790   | 2,015,956                     | 4,446,737                   | 6,462,694   |
| 2022          | 851,267            | 656,153          | 1,507,420  | 2,797,496                     | 1,457,421                     | 3,470,049                         | 7,724,966   | 2,001,976                     | 4,415,900                   | 6,417,877   |
| 2023          | 851,267            | 656,153          | 1,507,420  | 2,848,968                     | 1,484,236                     | 3,533,896                         | 7,867,100   | 2,015,747                     | 4,446,275                   | 6,462,021   |
| 2024          | 851,267            | 656,153          | 1,507,420  | 2,753,031                     | 1,344,256                     | 3,414,894                         | 7,602,181   | 1,990,039                     | 4,389,570                   | 6,379,609   |
| 2025          | 851,267            | 656,153          | 1,507,420  | 2,746,703                     | 1,430,959                     | 3,407,045                         | 7,584,706   | 1,989,338                     | 4,388,023                   | 6,377,361   |
| 2026          | 851,267            | 656,153          | 1,507,420  | 2,755,001                     | 1,435,282                     | 3,417,338                         | 7,607,622   | 1,990,045                     | 4,389,583                   | 6,379,628   |
| 2027          | 851,267            | 656,153          | 1,507,420  | 2,654,856                     | 1,383,109                     | 3,293,117                         | 7,331,082   | 1,966,054                     | 4,336,663                   | 6,302,717   |
| 2028          | 851,267            | 656,153          | 1,507,420  | 2,869,335                     | 1,494,847                     | 3,559,159                         | 7,923,341   | 2,019,745                     | 4,455,095                   | 6,474,841   |
| 2029          | 851,267            | 656,153          | 1,507,420  | 2,881,853                     | 1,501,368                     | 3,574,687                         | 7,957,908   | 2,023,773                     | 4,463,979                   | 6,487,752   |
| 2030          | 851,267            | 656,153          | 1,507,420  | 2,642,526                     | 1,376,686                     | 3,277,823                         | 7,297,035   | 1,961,408                     | 4,326,415                   | 6,287,823   |
| 2031          | 851,267            | 656,153          | 1,507,420  | 2,788,930                     | 1,452,958                     | 3,459,424                         | 7,701,311   | 2,003,592                     | 4,419,465                   | 6,423,058   |
| 2032          | 851,267            | 656,153          | 1,507,420  | 2,663,086                     | 1,387,397                     | 3,303,325                         | 7,353,808   | 1,964,312                     | 4,332,821                   | 6,297,133   |
| 2033          | 851,267            | 656,153          | 1,507,420  | 2,964,097                     | 1,544,216                     | 3,676,704                         | 8,185,016   | 2,048,278                     | 4,518,031                   | 6,566,309   |
| 2034          | 851,267            | 656,153          | 1,507,420  | 2,714,360                     | 1,414,109                     | 3,366,927                         | 7,495,396   | 1,977,996                     | 4,363,006                   | 6,341,002   |
| 2035          | 851,267            | 656,153          | 1,507,420  | 3,248,473                     | 1,692,368                     | 4,029,447                         | 8,970,289   | 2,127,710                     | 4,693,241                   | 6,820,951   |
| TOTAL         | 21,967,382         | 20,300,957       | 42,268,339 | 84,066,693                    | 45,817,705                    | 126,041,148                       | 255,925,546 | 47,894,732                    | 119,613,344                 | 167,508,076 |

(a) B-18 includes Extra Peaking Charges for additional power shown in Table 9.

**TABLE B-18 Variable OMP&R Component of Transportation Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 2 of 4

| Calendar Year | SAN JOAQUIN VALLEY AREA     |                                      |                                      |                          |              |                 |                         |  |             |
|---------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------|-----------------|-------------------------|--|-------------|
|               | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency |              | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District | Total       |
|               |                             |                                      |                                      | Municipal and Industrial | Agricultural |                 |                         |  |             |
|               | [11]                        | [12]                                 | [13]                                 | [14]                     | [15]         | [16]            | [17]                    | [18]                                     | [19]        |
| 1961          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1962          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1963          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1964          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1965          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1966          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1967          | 0                           | 0                                    | 0                                    | 0                        | 0            | 0               | 0                       | 0  | 0           |
| 1968          | 68,977                      | 5,176                                | 0                                    | 0                        | 440,922      | 2,355           | 4,760                   | 65,680                                   | 587,871     |
| 1969          | 56,774                      | 101                                  | 0                                    | 0                        | 321,387      | 181             | 3,338                   | 17,956                                   | 399,737     |
| 1970          | 69,818                      | 6,811                                | 0                                    | 0                        | 470,867      | 0               | 5,595                   | 16,550                                   | 569,641     |
| 1971          | 53,097                      | 7,747                                | 0                                    | 0                        | 731,754      | 4,785           | 6,353                   | 158,419                                  | 962,156     |
| 1972          | 62,365                      | 8,515                                | 0                                    | 0                        | 1,117,237    | 2,057           | 7,375                   | 379,686                                  | 1,577,235   |
| 1973          | 33,931                      | 4,615                                | 0                                    | 0                        | 751,373      | 2,307           | 3,017                   | 77,630                                   | 872,873     |
| 1974          | 49,114                      | 4,413                                | 0                                    | 45,531                   | 666,973      | 2,206           | 3,114                   | 106,332                                  | 877,685     |
| 1975          | 63,140                      | 4,671                                | 0                                    | 33,862                   | 838,135      | 2,491           | 3,920                   | 134,295                                  | 1,080,514   |
| 1976          | 70,851                      | 5,132                                | 0                                    | 93,991                   | 957,767      | 2,737           | 4,910                   | 100,597                                  | 1,235,984   |
| 1977          | 26,565                      | 1,758                                | 0                                    | 83,339                   | 493,847      | 3,644           | 2,602                   | 43,067                                   | 654,822     |
| 1978          | 108,944                     | 938                                  | 0                                    | 188,966                  | 1,605,431    | 4,319           | 6,294                   | 24,901                                   | 1,939,793   |
| 1979          | 107,956                     | 4,871                                | 0                                    | 193,260                  | 2,356,542    | 5,602           | 13,172                  | 434,472                                  | 3,115,874   |
| 1980          | 88,746                      | 1,935                                | 0                                    | 121,603                  | 1,731,588    | 4,762           | 7,766                   | 163,301                                  | 2,119,700   |
| 1981          | 129,687                     | 18,533                               | 0                                    | 259,802                  | 2,401,614    | 7,275           | 8,904                   | 263,922                                  | 3,089,736   |
| 1982          | 108,561                     | 937                                  | 0                                    | 138,432                  | 2,382,218    | 4,541           | 6,763                   | 48,137                                   | 2,689,589   |
| 1983          | 61,443                      | 0                                    | 0                                    | 13,954                   | 929,183      | 5,662           | 3,232                   | 1,218                                    | 1,014,692   |
| 1984          | 82,423                      | 0                                    | 0                                    | 172,730                  | 2,039,966    | 5,946           | 7,475                   | 10,496                                   | 2,319,036   |
| 1985          | 114,571                     | 12,938                               | 0                                    | 228,121                  | 2,581,708    | 8,422           | 8,815                   | 271,970                                  | 3,226,546   |
| 1986          | 236,756                     | 5,513                                | 0                                    | 377,798                  | 4,876,960    | 17,433          | 16,927                  | 376,088                                  | 5,907,475   |
| 1987          | 187,090                     | 10,273                               | 0                                    | 491,023                  | 4,244,094    | 16,140          | 15,529                  | 375,604                                  | 5,339,754   |
| 1988          | 188,170                     | 14,894                               | 0                                    | 494,958                  | 4,280,201    | 15,528          | 11,928                  | 374,528                                  | 5,380,208   |
| 1989          | 285,261                     | 15,450                               | 0                                    | 656,118                  | 6,183,768    | 20,063          | 21,693                  | 649,604                                  | 7,831,958   |
| 1990          | 218,786                     | 7,710                                | 0                                    | 817,290                  | 4,806,772    | 12,056          | 12,072                  | 344,008                                  | 6,218,694   |
| 1991          | 4,393                       | 1,047                                | 0                                    | 185,013                  | 47,869       | 0               | 521                     | 10,331                                   | 249,174     |
| 1992          | 76,840                      | 4,426                                | 0                                    | 217,223                  | 1,709,933    | 6,059           | 5,222                   | 151,055                                  | 2,170,758   |
| 1993          | 20,064                      | 4,843                                | 0                                    | 48,161                   | 371,012      | 2,090           | 1,467                   | 123,913                                  | 571,550     |
| 1994          | 135,626                     | 7,854                                | 0                                    | 461,574                  | 3,427,557    | 9,967           | 10,102                  | 293,748                                  | 4,346,429   |
| 1995          | 181,772                     | 4,611                                | 0                                    | 401,880                  | 3,445,511    | 11,619          | 10,492                  | 288,010                                  | 4,343,895   |
| 1996          | 286,064                     | 9,577                                | 0                                    | 710,852                  | 6,333,517    | 21,039          | 16,403                  | 1,196,303                                | 8,573,755   |
| 1997          | 308,515                     | 0                                    | 0                                    | 557,650                  | 5,720,501    | 0               | 15,559                  | 94,838                                   | 6,697,062   |
| 1998          | 16,993                      | (54)                                 | 0                                    | (16,341)                 | 91,651       | (2)             | 1,171                   | (2,095)                                  | 91,324      |
| 1999          | 191,682                     | 10,198                               | 0                                    | 463,890                  | 3,954,090    | 12,844          | 11,542                  | 937,238                                  | 5,581,485   |
| 2000          | 187,499                     | 5,572                                | 0                                    | 145,048                  | 4,094,882    | 11,150          | 9,981                   | 614,208                                  | 5,068,338   |
| 2001          | 795,346                     | 25,814                               | 0                                    | 157,947                  | 11,972,552   | 29,611          | 46,224                  | 1,130,552                                | 14,158,047  |
| 2002          | 425,664                     | 12,226                               | 0                                    | 183,569                  | 8,013,780    | 24,836          | 29,691                  | 839,772                                  | 9,529,537   |
| 2003          | 453,879                     | 14,144                               | 0                                    | 493,783                  | 9,972,811    | 36,364          | 28,706                  | 1,042,468                                | 12,042,155  |
| 2004          | 519,124                     | 37,676                               | 0                                    | 1,403,068                | 8,919,108    | 95,754          | 33,583                  | 859,466                                  | 11,867,780  |
| 2005          | 971,096                     | 45,499                               | 0                                    | 831,145                  | 17,526,571   | 235,043         | 33,805                  | 1,661,442                                | 21,304,601  |
| 2006          | 687,279                     | 31,294                               | 0                                    | 951,319                  | 13,200,756   | 90,868          | 27,782                  | 1,031,749                                | 16,021,047  |
| 2007          | 610,010                     | 28,166                               | 0                                    | 759,962                  | 11,917,871   | 78,137          | 32,402                  | 1,176,946                                | 14,603,493  |
| 2008          | 360,496                     | 15,396                               | 0                                    | 717,226                  | 7,301,946    | 62,364          | 23,358                  | 551,198                                  | 9,031,984   |
| 2009          | 207,662                     | 10,119                               | 0                                    | 72,202                   | 5,595,010    | 33,187          | 12,665                  | 360,191                                  | 6,291,036   |
| 2010          | 443,661                     | 48,789                               | 0                                    | 155,584                  | 9,826,062    | 72,371          | 31,663                  | 860,269                                  | 11,438,399  |
| 2011          | 930,565                     | 29,364                               | 0                                    | 708,255                  | 19,753,962   | 102,843         | 29,285                  | 848,511                                  | 22,402,787  |
| 2012          | 283,936                     | 34,759                               | 0                                    | 565,670                  | 12,203,953   | 114,805         | 34,314                  | 1,383,791                                | 14,621,228  |
| 2013          | 527,268                     | 30,549                               | 0                                    | 660,629                  | 12,763,967   | 90,555          | 38,551                  | 860,047                                  | 14,971,566  |
| 2014          | 330,571                     | 11,296                               | 0                                    | 371,403                  | 11,591,930   | 23,778          | 25,107                  | 220,108                                  | 12,574,193  |
| 2015          | 714,980                     | 42,594                               | 0                                    | 2,172,425                | 15,498,579   | 135,065         | 55,541                  | 1,241,909                                | 19,861,093  |
| 2016          | 714,967                     | 42,593                               | 0                                    | 2,172,419                | 15,493,426   | 135,046         | 55,559                  | 1,241,887                                | 19,855,898  |
| 2017          | 702,975                     | 41,878                               | 0                                    | 2,147,069                | 14,925,294   | 131,417         | 54,939                  | 1,221,057                                | 19,224,629  |
| 2018          | 630,861                     | 37,582                               | 0                                    | 1,983,208                | 13,939,763   | 118,092         | 45,241                  | 1,095,796                                | 17,850,543  |
| 2019          | 565,930                     | 39,171                               | 0                                    | 2,104,788                | 14,124,612   | 122,988         | 49,676                  | 1,161,043                                | 18,168,207  |
| 2020          | 566,970                     | 39,243                               | 0                                    | 2,120,847                | 14,222,493   | 123,212         | 49,285                  | 1,163,176                                | 18,285,225  |
| 2021          | 614,350                     | 42,522                               | 0                                    | 2,259,494                | 15,137,657   | 133,383         | 55,635                  | 1,260,379                                | 19,503,420  |
| 2022          | 584,967                     | 40,488                               | 0                                    | 2,175,435                | 14,581,604   | 127,075         | 51,619                  | 1,200,097                                | 18,761,286  |
| 2023          | 613,910                     | 42,492                               | 0                                    | 2,266,072                | 15,176,132   | 133,289         | 55,259                  | 1,259,476                                | 19,546,629  |
| 2024          | 559,876                     | 38,752                               | 0                                    | 2,096,622                | 14,064,766   | 121,689         | 48,475                  | 1,148,623                                | 18,078,803  |
| 2025          | 558,402                     | 38,650                               | 0                                    | 2,098,489                | 14,073,210   | 121,372         | 48,028                  | 1,145,599                                | 18,083,750  |
| 2026          | 559,889                     | 38,753                               | 0                                    | 2,093,289                | 14,044,870   | 121,691         | 48,615                  | 1,148,648                                | 18,055,754  |
| 2027          | 509,463                     | 35,262                               | 0                                    | 1,953,690                | 13,118,434   | 110,866         | 41,534                  | 1,045,196                                | 16,814,445  |
| 2028          | 622,315                     | 43,073                               | 0                                    | 2,282,918                | 15,292,195   | 135,093         | 56,699                  | 1,276,719                                | 19,709,012  |
| 2029          | 630,780                     | 43,659                               | 0                                    | 2,313,846                | 15,492,474   | 136,910         | 57,584                  | 1,294,086                                | 19,969,340  |
| 2030          | 499,698                     | 34,586                               | 0                                    | 1,914,346                | 12,865,486   | 108,769         | 40,662                  | 1,025,162                                | 16,488,709  |
| 2031          | 588,363                     | 40,723                               | 0                                    | 2,212,090                | 14,806,539   | 127,804         | 51,014                  | 1,207,065                                | 19,033,598  |
| 2032          | 505,801                     | 35,009                               | 0                                    | 1,916,873                | 12,891,645   | 110,080         | 42,116                  | 1,037,685                                | 16,539,208  |
| 2033          | 682,285                     | 47,224                               | 0                                    | 2,491,867                | 16,650,176   | 147,967         | 63,399                  | 1,399,753                                | 21,482,671  |
| 2034          | 534,565                     | 37,000                               | 0                                    | 2,006,611                | 13,480,529   | 116,255         | 45,741                  | 1,096,694                                | 17,317,394  |
| 2035          | 849,239                     | 58,780                               | 0                                    | 3,039,700                | 20,227,402   | 183,809         | 83,505                  | 1,742,268                                | 26,184,704  |
| TOTAL         | 24,239,617                  | 1,426,131                            | 0                                    | 61,439,589               | 547,074,396  | 4,017,668       | 1,795,275               | 46,384,837                               | 686,377,514 |

(a) B-18 includes Extra Peaking Charges for additional power shown in Table 9.

**TABLE B-18 Variable OMP&R Component of Transportation Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [20]                                   | [21]                      | [22]                            | [23]                                  | [24]                | [25]                                 | [26]                | [27]                    | [28]   | [29]  |
| 1961          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1962          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1963          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1964          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1965          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1966          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1967          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1968          | 0                                      | 30,401                    | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1969          | 0                                      | 30,627                    | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1970          | 0                                      | 39,430                    | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1971          | 0                                      | 34,871                    | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  | 0   |
| 1972          | 710                                    | 47,571                    | 0                               | 6,602                                 | 0                   | 4,156                                | 783                 | 0                       | 15,117   | 0   |
| 1973          | 270                                    | 28,968                    | 96,209                          | 6,453                                 | 149,289             | 3,687                                | 0                   | 0                       | 249,193  | 0   |
| 1974          | 15,040                                 | 28,982                    | 96,540                          | 9,458                                 | 150,844             | 4,770                                | 211                 | 0                       | 161,738  | 5,961                                       |
| 1975          | 97,373                                 | 28,568                    | 105,611                         | 12,447                                | 165,961             | 6,274                                | 0                   | 0                       | 129,042  | 50,723                                      |
| 1976          | 379,830                                | 38,365                    | 132,461                         | 17,464                                | 209,148             | 8,052                                | 0                   | 0                       | 132,365  | 65,476                                      |
| 1977          | 194,137                                | 21,006                    | 0                               | 22,635                                | 0                   | 1,924                                | 1,633               | 0                       | 206,587  | 74,838                                      |
| 1978          | 572,290                                | 45,550                    | 170,805                         | 20,478                                | 259,155             | 2,686                                | 0                   | 0                       | 35,203   | 67,462                                      |
| 1979          | 1,045,698                              | 83,936                    | 225,048                         | 28,179                                | 335,459             | 2,299                                | 89,456              | 0                       | 228  | 3,668                                       |
| 1980          | 1,390,117                              | 51,143                    | 256,759                         | 29,229                                | 401,038             | 3,667                                | 94,362              | 0                       | 0  | 16,504                                      |
| 1981          | 1,480,362                              | 118,583                   | 274,149                         | 33,632                                | 430,304             | 23,861                               | 90,590              | 0                       | 254,649  | 57,523                                      |
| 1982          | 923,973                                | 132,575                   | 292,674                         | 27,190                                | 461,216             | 0                                    | 230,608             | 0                       | 126,461  | 189,895                                     |
| 1983          | 333,772                                | (335,712)                 | 172,336                         | 10,792                                | 272,477             | 385                                  | 0                   | 0                       | (71,602)                                       | (8,768)                                     |
| 1984          | 485,847                                | (142,910)                 | 273,597                         | 19,572                                | 433,785             | 15                                   | 0                   | 0                       | (66,353)                                       | (91,433)                                    |
| 1985          | 821,069                                | (335,343)                 | 413,406                         | 34,603                                | 657,011             | 0                                    | 0                   | 32,464                  | (47,544)                                       | (32,348)                                    |
| 1986          | 1,109,047                              | 54,812                    | 728,808                         | 60,274                                | 1,160,650           | 5,548                                | 0                   | 105,375                 | 69,170   | 101,843                                     |
| 1987          | 1,019,605                              | (40,745)                  | 668,383                         | 63,601                                | 1,083,530           | 32,651                               | 585                 | 157,843                 | 88,076   | 49,930                                      |
| 1988          | 1,019,793                              | (74,006)                  | 688,891                         | 66,914                                | 1,134,141           | 11,991                               | 300                 | 50,654                  | 92,465   | 38,688                                      |
| 1989          | 1,736,901                              | 178,359                   | 978,885                         | 97,114                                | 1,633,489           | 38,269                               | 8,951               | 350,953                 | 340,460  | 210,334                                     |
| 1990          | 2,442,558                              | 422,502                   | 1,402,619                       | 110,934                               | 2,313,410           | 90,472                               | 0                   | 446,408                 | 599,573  | 530,099                                     |
| 1991          | 286,485                                | (3,054)                   | 277,078                         | 33,945                                | 456,999             | 17,978                               | 128,405             | 132,700                 | 35,339   | 52,116                                      |
| 1992          | 587,340                                | (208,900)                 | 240,119                         | 11,952                                | 396,022             | 4,871                                | 241,338             | 78,306                  | (22,718)                                       | (53,500)                                    |
| 1993          | (190,611)                              | (491,161)                 | (809,033)                       | (2,389)                               | (1,334,429)         | (3,246)                              | (61,112)            | (29,466)                | (157,452)                                      | (519,798)                                   |
| 1994          | 1,841,902                              | 66,338                    | 189,616                         | 34,480                                | 312,714             | 41,201                               | 731,185             | 315,446                 | 122,829  | 204,783                                     |
| 1995          | 761,209                                | (247,735)                 | (251,547)                       | 7,960                                 | (414,889)           | 7,727                                | 165,622             | 114,342                 | (7,579)  | (140,714)                                   |
| 1996          | 1,883,530                              | 72,171                    | 508,274                         | 18,313                                | 838,330             | 16,510                               | 289,044             | 385,745                 | 49,537   | 133,848                                     |
| 1997          | 2,121,818                              | 22,440                    | 365,342                         | 24,076                                | 330,153             | 15,099                               | 414,596             | 438,212                 | 61,553   | 115,882                                     |
| 1998          | (577,005)                              | (733,387)                 | (3,979,131)                     | (2,991)                               | (3,279,862)         | (4,405)                              | (46,209)            | (84,367)                | (87,188)                                       | (432,227)                                   |
| 1999          | 1,250,830                              | (475,206)                 | (683,915)                       | 18,893                                | (787,153)           | 6,193                                | 172,541             | 252,025                 | (174,420)                                      | (244,303)                                   |
| 2000          | 1,649,757                              | (400,024)                 | (481,259)                       | 22,583                                | (662,184)           | 0                                    | 268,269             | 178,839                 | (209,217)                                      | (172,158)                                   |
| 2001          | 10,865,814                             | 4,504,776                 | 1,516,404                       | 208,799                               | 2,501,234           | 0                                    | 859,787             | 1,807,596               | 4,413,902                                      | 393,265                                     |
| 2002          | 3,940,463                              | 1,972,885                 | 737,668                         | 162,408                               | 1,216,898           | 0                                    | 332,517             | 1,250,856               | 3,146,931                                      | 1,094,108                                   |
| 2003          | 5,102,914                              | 3,155,422                 | 908,048                         | 145,766                               | 1,497,528           | 0                                    | 1,429,999           | 981,581                 | 1,641,755                                      | 1,379,016                                   |
| 2004          | 5,204,461                              | 3,238,845                 | 1,014,120                       | 192,203                               | 1,389,538           | 0                                    | 1,340,546           | 1,058,862               | 3,796,147                                      | 822,378                                     |
| 2005          | 5,975,183                              | 2,997,184                 | 3,435,143                       | 89,645                                | 3,965,938           | 0                                    | 1,575,081           | 1,169,650               | 2,641,416                                      | 1,129,778                                   |
| 2006          | 6,404,646                              | 2,245,537                 | 7,042,283                       | 56,378                                | 2,907,631           | 0                                    | 3,164,572           | 995,308                 | 2,174,900                                      | 946,957                                     |
| 2007          | 9,368,747                              | 4,241,036                 | 7,370,339                       | 231,158                               | 3,043,028           | 0                                    | 6,183,023           | 2,224,013               | 6,102,640                                      | 405,012                                     |
| 2008          | 5,830,288                              | 3,803,094                 | 4,861,729                       | 115,081                               | 2,637,747           | 3,036                                | 3,552,073           | 1,731,168               | 4,102,464                                      | 756,866                                     |
| 2009          | 4,072,092                              | 2,501,217                 | 3,307,596                       | 94,600                                | 1,324,211           | 3,837                                | 3,165,316           | 1,401,244               | 3,325,598                                      | 835,265                                     |
| 2010          | 6,228,321                              | 2,814,436                 | 7,586,439                       | 42,405                                | 2,809,678           | 0                                    | 4,695,219           | 1,168,056               | 4,865,600                                      | 1,728,173                                   |
| 2011          | 11,035,494                             | 2,813,284                 | 9,115,562                       | 62,079                                | 3,673,224           | 0                                    | 658,825             | 1,227,717               | 3,588,556                                      | 2,382,007                                   |
| 2012          | 10,686,659                             | 3,822,110                 | 12,516,520                      | 85,859                                | 4,824,551           | 0                                    | 1,646,578           | 2,118,193               | 10,602,552                                     | 2,359,592                                   |
| 2013          | 7,914,328                              | 6,161,366                 | 9,070,821                       | 235,192                               | 2,934,810           | 0                                    | 1,328,879           | 1,638,935               | 5,054,813                                      | 1,305,991                                   |
| 2014          | 3,925,828                              | 7,905,670                 | 2,885,038                       | 587,943                               | 690,519             | 26,694                               | 688,085             | 1,656,169               | 4,436,859                                      | 277,224                                     |
| 2015          | 16,297,895                             | 9,773,355                 | 14,784,996                      | 736,096                               | 5,957,814           | 258,766                              | 9,879,919           | 2,396,400               | 10,966,185                                     | 3,077,758                                   |
| 2016          | 16,303,910                             | 9,780,454                 | 14,805,790                      | 736,291                               | 5,966,193           | 258,862                              | 9,982,869           | 2,397,286               | 10,981,596                                     | 3,082,087                                   |
| 2017          | 16,852,477                             | 9,985,468                 | 15,374,246                      | 748,875                               | 6,195,260           | 267,604                              | 10,211,903          | 2,478,248               | 11,403,000                                     | 3,200,421                                   |
| 2018          | 18,029,630                             | 10,662,778                | 16,594,930                      | 804,384                               | 6,687,151           | 286,297                              | 10,959,549          | 2,651,355               | 12,308,319                                     | 3,454,528                                   |
| 2019          | 16,432,314                             | 7,425,563                 | 15,327,153                      | 746,183                               | 6,176,283           | 267,287                              | 12,009,163          | 2,475,306               | 11,374,319                                     | 3,190,618                                   |
| 2020          | 16,901,025                             | 7,679,374                 | 15,736,238                      | 767,885                               | 6,341,129           | 274,911                              | 12,448,134          | 2,545,911               | 11,678,035                                     | 3,275,776                                   |
| 2021          | 16,945,187                             | 7,875,169                 | 15,828,990                      | 769,508                               | 6,378,505           | 275,629                              | 12,471,708          | 2,552,563               | 11,746,651                                     | 3,295,084                                   |
| 2022          | 16,988,909                             | 8,002,262                 | 15,919,810                      | 771,493                               | 6,415,102           | 276,340                              | 12,504,031          | 2,559,150               | 11,813,867                                     | 3,313,990                                   |
| 2023          | 17,229,936                             | 8,272,859                 | 16,117,405                      | 782,662                               | 6,494,726           | 280,261                              | 12,687,536          | 2,595,457               | 11,960,618                                     | 3,355,123                                   |
| 2024          | 16,779,752                             | 8,131,432                 | 15,627,516                      | 760,922                               | 6,297,318           | 272,938                              | 12,323,992          | 2,527,643               | 11,597,228                                     | 3,253,144                                   |
| 2025          | 16,988,125                             | 8,397,404                 | 15,907,399                      | 772,144                               | 6,410,101           | 276,327                              | 12,519,743          | 2,559,032               | 11,804,751                                     | 3,311,407                                   |
| 2026          | 16,648,326                             | 8,314,608                 | 15,500,376                      | 756,183                               | 6,246,086           | 270,800                              | 12,255,974          | 2,507,845               | 11,502,986                                     | 3,226,678                                   |
| 2027          | 16,886,844                             | 8,477,896                 | 15,785,602                      | 767,540                               | 6,361,021           | 274,680                              | 12,444,748          | 2,543,775               | 11,714,463                                     | 3,286,052                                   |
| 2028          | 16,960,763                             | 8,682,032                 | 15,818,558                      | 769,725                               | 6,374,302           | 275,882                              | 12,471,608          | 2,554,910               | 11,738,964                                     | 3,292,913                                   |
| 2029          | 17,198,490                             | 8,896,957                 | 16,086,700                      | 779,880                               | 6,482,353           | 279,749                              | 12,632,158          | 2,590,720               | 11,937,735                                     | 3,348,731                                   |
| 2030          | 16,481,974                             | 8,583,949                 | 15,359,177                      | 749,722                               | 6,189,188           | 268,094                              | 12,158,901          | 2,482,787               | 11,398,232                                     | 3,197,284                                   |
| 2031          | 17,981,281                             | 9,447,772                 | 16,898,645                      | 814,559                               | 6,809,537           | 292,482                              | 13,190,333          | 2,708,637               | 12,539,920                                     | 3,517,752                                   |
| 2032          | 15,935,336                             | 8,585,833                 | 14,815,231                      | 724,550                               | 5,969,997           | 259,203                              | 11,746,673          | 2,400,443               | 10,994,666                                     | 3,084,052                                   |
| 2033          | 18,249,015                             | 9,931,029                 | 17,106,111                      | 826,161                               | 6,893,138           | 296,837                              | 13,375,113          | 2,748,968               | 12,693,993                                     | 3,560,940                                   |
| 2034          | 16,160,140                             | 8,978,481                 | 15,071,648                      | 734,948                               | 6,073,324           | 262,859                              | 11,917,266          | 2,434,307               | 11,184,798                                     | 3,137,430                                   |
| 2035          | 20,643,052                             | 11,206,148                | 19,446,038                      | 925,383                               | 7,836,043           | 335,778                              | 14,919,833          | 3,109,597               | 14,429,361                                     | 4,048,037                                   |
| <b>TOTAL</b>  | <b>480,133,264</b>                     | <b>237,356,699</b>        | <b>407,632,991</b>              | <b>19,399,006</b>                     | <b>177,077,715</b>  | <b>6,187,787</b>                     | <b>288,552,810</b>  | <b>77,175,167</b>       | <b>309,589,330</b>                             | <b>85,599,766</b>                           |

(a) B-18 includes Extra Peaking Charges for additional power shown in Table 9.

**TABLE B-18 Variable OMP&R Component of Transportation Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |               | FEATHER RIVER AREA |                 |                      |       | South Bay Area Future Contractor | GRAND TOTAL   |
|---------------|--------------------------------------|--|--|---------------|--------------------|-----------------|----------------------|-------|----------------------------------|---------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total         | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total |                                  |               |
|               | [30]                                 | [31]   | [32]   | [33]          | [34]               | [35]            | [36]                 | [37]  | [38]                             | [39]          |
| 1961          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 0             |
| 1962          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 36,970        |
| 1963          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 57,711        |
| 1964          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 74,134        |
| 1965          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 142,609       |
| 1966          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 192,605       |
| 1967          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0     | 0                                | 236,998       |
| 1968          | 0                                    | 0  | 0  | 30,401        | 0                  | 0               | 0                    | 0     | 0                                | 1,117,913     |
| 1969          | 0                                    | 0  | 0  | 30,627        | 0                  | 0               | 0                    | 0     | 0                                | 773,646       |
| 1970          | 0                                    | 0  | 0  | 39,430        | 0                  | 0               | 0                    | 0     | 0                                | 1,103,798     |
| 1971          | 0                                    | 0  | 0  | 34,871        | 0                  | 0               | 0                    | 0     | 0                                | 1,476,135     |
| 1972          | 0                                    | 752,580  | 0  | 827,518       | 0                  | 0               | 0                    | 0     | 0                                | 3,142,901     |
| 1973          | 0                                    | 942,905  | 0  | 1,476,973     | 0                  | 0               | 0                    | 0     | 0                                | 2,946,091     |
| 1974          | 0                                    | 1,683,743  | 0  | 2,157,288     | 0                  | 0               | 0                    | 0     | 0                                | 3,698,160     |
| 1975          | 0                                    | 3,687,903  | 0  | 4,283,902     | 0                  | 0               | 0                    | 0     | 0                                | 5,831,562     |
| 1976          | 0                                    | 5,253,329  | 0  | 6,236,491     | 0                  | 0               | 0                    | 0     | 0                                | 8,215,667     |
| 1977          | 0                                    | (977,112)  | 0  | (454,352)     | 0                  | 0               | 0                    | 0     | 0                                | 926,518       |
| 1978          | 0                                    | 3,468,162  | 0  | 4,641,791     | 0                  | 0               | 0                    | 0     | 0                                | 7,371,033     |
| 1979          | 0                                    | 3,795,878  | 0  | 5,609,848     | 0                  | 0               | 0                    | 0     | 0                                | 9,608,834     |
| 1980          | 0                                    | 5,362,245  | 0  | 7,605,063     | 0                  | 0               | 0                    | 0     | 0                                | 10,425,874    |
| 1981          | 0                                    | 10,862,932   | 0  | 13,626,585    | 0                  | 0               | 0                    | 0     | 0                                | 17,576,025    |
| 1982          | 0                                    | 7,685,168  | 0  | 10,069,760    | 0                  | 0               | 0                    | 0     | 0                                | 13,566,611    |
| 1983          | 0                                    | (8,994,497)  | 0  | (8,620,817)   | 0                  | 0               | 0                    | 0     | 0                                | (7,441,457)   |
| 1984          | 0                                    | (7,633,741)  | 0  | (6,721,621)   | 0                  | 0               | 0                    | 0     | 0                                | (4,008,600)   |
| 1985          | 0                                    | (15,213,299)   | 0  | (13,669,983)  | 0                  | 0               | 0                    | 0     | 0                                | (9,784,305)   |
| 1986          | 0                                    | 1,135,478  | 0  | 4,531,004     | 0                  | 0               | 0                    | 0     | 0                                | 11,629,557    |
| 1987          | 0                                    | (3,007,097)  | 0  | 116,362       | 0                  | 0               | 0                    | 0     | 0                                | 6,746,469     |
| 1988          | 0                                    | (3,407,929)  | 0  | (378,098)     | 0                  | 0               | 0                    | 0     | 0                                | 6,351,153     |
| 1989          | 0                                    | 9,488,536  | 0  | 15,062,251    | 0                  | 0               | 0                    | 0     | 0                                | 24,661,303    |
| 1990          | 0                                    | 30,759,725   | 204,582                                      | 39,322,883    | 0                  | 0               | 0                    | 0     | 0                                | 48,184,400    |
| 1991          | 0                                    | 184,870  | 22,623                                       | 1,625,484     | 0                  | 0               | 0                    | 0     | 0                                | 2,463,685     |
| 1992          | 0                                    | (9,471,028)  | 0  | (8,196,199)   | 0                  | 0               | 0                    | 0     | 0                                | (5,499,060)   |
| 1993          | 0                                    | (21,473,875)   | 0  | (25,072,572)  | 0                  | 0               | 0                    | 0     | 0                                | (24,652,636)  |
| 1994          | 0                                    | 4,059,683  | 0  | 7,920,180     | 0                  | 0               | 0                    | 0     | 0                                | 13,514,311    |
| 1995          | 0                                    | (4,895,977)  | 0  | (4,901,580)   | 0                  | 0               | 0                    | 0     | 0                                | (99,701)      |
| 1996          | 0                                    | 1,859,275  | 0  | 6,054,578     | 0                  | 0               | 0                    | 0     | 0                                | 15,893,939    |
| 1997          | 0                                    | 2,428,729  | (921)  | 6,336,978     | 0                  | 0               | 0                    | 0     | 0                                | 14,932,640    |
| 1998          | 0                                    | (14,593,773)   | (68,568)                                     | (23,889,113)  | 0                  | 0               | 0                    | 0     | 0                                | (24,030,879)  |
| 1999          | 0                                    | (9,859,076)  | (31,704)                                     | (10,555,295)  | 0                  | 0               | 0                    | 0     | 0                                | (3,695,239)   |
| 2000          | 0                                    | (16,720,534)   | 1,343  | (16,524,585)  | 0                  | 0               | 0                    | 0     | 0                                | (9,529,054)   |
| 2001          | 0                                    | 160,090,738  | 269,117                                      | 187,431,433   | 0                  | 0               | 0                    | 0     | 0                                | 210,554,082   |
| 2002          | 0                                    | 59,840,151   | 279,773                                      | 73,974,657    | 0                  | 0               | 0                    | 0     | 0                                | 88,871,047    |
| 2003          | 7,293                                | 94,397,023   | 358,241                                      | 111,004,588   | 0                  | 0               | 0                    | 0     | 0                                | 129,538,621   |
| 2004          | 97,767                               | 106,695,328  | 415,475                                      | 125,265,670   | 0                  | 0               | 0                    | 0     | 0                                | 143,601,645   |
| 2005          | 83,957                               | 113,376,456  | 122,591                                      | 136,562,022   | 0                  | 0               | 0                    | 0     | 0                                | 165,562,019   |
| 2006          | 438,720                              | 82,894,100   | 92,893                                       | 109,363,926   | 0                  | 0               | 0                    | 0     | 0                                | 131,813,281   |
| 2007          | 613,403                              | 137,976,654  | 317,680                                      | 178,076,733   | 0                  | 0               | 0                    | 0     | 0                                | 201,914,771   |
| 2008          | 742,053                              | 84,139,470   | 410,166                                      | 112,685,235   | 0                  | 0               | 0                    | 0     | 0                                | 128,939,381   |
| 2009          | 727,013                              | 58,862,842   | 345,392                                      | 79,966,221    | 0                  | 0               | 0                    | 0     | 0                                | 91,671,331    |
| 2010          | 1,114,465                            | 90,902,572   | 406,561                                      | 124,361,926   | 0                  | 0               | 0                    | 0     | 0                                | 142,505,055   |
| 2011          | 1,561,724                            | 131,575,741  | 424,723                                      | 168,118,937   | 0                  | 0               | 0                    | 0     | 0                                | 199,604,323   |
| 2012          | 1,758,998                            | 111,537,942  | 511,478                                      | 162,471,031   | 0                  | 0               | 0                    | 0     | 0                                | 185,332,978   |
| 2013          | 1,964,653                            | 116,610,113  | 433,144                                      | 154,653,044   | 0                  | 0               | 0                    | 0     | 0                                | 180,283,261   |
| 2014          | 2,114,450                            | 101,911,388  | 243,734                                      | 127,349,601   | 0                  | 0               | 0                    | 0     | 0                                | 148,674,897   |
| 2015          | 2,952,321                            | 198,586,589  | 565,881                                      | 276,233,977   | 0                  | 0               | 0                    | 0     | 0                                | 311,529,823   |
| 2016          | 2,990,758                            | 198,795,668  | 566,120                                      | 276,647,884   | 0                  | 0               | 0                    | 0     | 0                                | 312,216,280   |
| 2017          | 3,177,384                            | 204,750,358  | 583,230                                      | 285,228,475   | 0                  | 0               | 0                    | 0     | 0                                | 320,893,500   |
| 2018          | 3,334,010                            | 219,771,435  | 624,229                                      | 306,168,594   | 0                  | 0               | 0                    | 0     | 0                                | 339,960,107   |
| 2019          | 3,167,014                            | 204,481,868  | 1,651,278                                    | 282,724,349   | 0                  | 0               | 0                    | 0     | 0                                | 316,437,889   |
| 2020          | 3,218,168                            | 208,096,910  | 1,699,404                                    | 290,662,900   | 0                  | 0               | 0                    | 0     | 0                                | 324,479,775   |
| 2021          | 3,229,766                            | 209,283,138  | 1,706,654                                    | 292,358,551   | 0                  | 0               | 0                    | 0     | 0                                | 327,713,874   |
| 2022          | 3,241,122                            | 209,889,593  | 1,707,584                                    | 293,403,254   | 0                  | 0               | 0                    | 0     | 0                                | 327,814,802   |
| 2023          | 3,265,831                            | 212,866,348  | 1,734,172                                    | 297,642,933   | 0                  | 0               | 0                    | 0     | 0                                | 333,026,103   |
| 2024          | 3,204,572                            | 206,166,300  | 1,680,494                                    | 288,623,251   | 0                  | 0               | 0                    | 0     | 0                                | 322,191,263   |
| 2025          | 3,239,571                            | 209,800,193  | 1,708,323                                    | 293,694,519   | 0                  | 0               | 0                    | 0     | 0                                | 327,247,756   |
| 2026          | 3,188,674                            | 204,966,749  | 1,673,749                                    | 287,059,035   | 0                  | 0               | 0                    | 0     | 0                                | 320,609,458   |
| 2027          | 3,224,340                            | 207,983,281  | 1,693,907                                    | 291,444,149   | 0                  | 0               | 0                    | 0     | 0                                | 323,399,813   |
| 2028          | 3,228,461                            | 209,193,412  | 1,706,467                                    | 293,067,996   | 0                  | 0               | 0                    | 0     | 0                                | 328,682,609   |
| 2029          | 3,261,991                            | 212,228,742  | 1,727,072                                    | 297,451,279   | 0                  | 0               | 0                    | 0     | 0                                | 333,373,698   |
| 2030          | 3,171,018                            | 202,882,125  | 1,656,446                                    | 284,578,895   | 0                  | 0               | 0                    | 0     | 0                                | 316,159,882   |
| 2031          | 3,363,521                            | 221,470,315  | 1,793,403                                    | 310,828,158   | 0                  | 0               | 0                    | 0     | 0                                | 345,493,544   |
| 2032          | 3,103,000                            | 196,099,131  | 1,603,741                                    | 275,321,858   | 0                  | 0               | 0                    | 0     | 0                                | 307,019,426   |
| 2033          | 3,389,464                            | 224,988,408  | 1,825,552                                    | 315,884,728   | 0                  | 0               | 0                    | 0     | 0                                | 353,626,145   |
| 2034          | 3,135,064                            | 199,400,907  | 1,628,680                                    | 280,119,853   | 0                  | 0               | 0                    | 0     | 0                                | 312,781,064   |
| 2035          | 3,682,060                            | 251,715,860  | 2,013,664                                    | 354,310,853   | 0                  | 0               | 0                    | 0     | 0                                | 397,794,215   |
| TOTAL         | 78,992,605                           | 5,839,391,051  | 36,308,374                                   | 8,043,396,567 | 0                  | 0               | 0                    | 0     | 0                                | 9,195,476,041 |

(a) B-18 includes Extra Peaking Charges for additional power shown in Table 9.

**TABLE B-19 Total Transportation Charge for Each Contractors <sup>a</sup>**

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                  |            | SOUTH BAY AREA                |                               |                                   |            | CENTRAL COASTAL AREA          |                             |            |
|---------------|--------------------|------------------|------------|-------------------------------|-------------------------------|-----------------------------------|------------|-------------------------------|-----------------------------|------------|
|               | Napa County FC&WCD | Solano County WA | Total      | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total      | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total      |
| 1961          | 0                  | 0                | 0          | [4]                           | 0                             | 0                                 | [7]        | 0                             | 0                           | 0          |
| 1962          | 0                  | 0                | 0          | 11,750                        | 43,787                        | 21,132                            | 76,669     | 0                             | 0                           | 0          |
| 1963          | 0                  | 0                | 0          | 199,726                       | 190,272                       | 447,723                           | 837,721    | 0                             | 0                           | 0          |
| 1964          | 0                  | 0                | 0          | 263,282                       | 277,455                       | 621,356                           | 1,162,093  | 6,696                         | 21,667                      | 28,363     |
| 1965          | 0                  | 0                | 0          | 373,816                       | 404,324                       | 1,158,090                         | 1,936,230  | 13,756                        | 36,029                      | 49,785     |
| 1966          | 18,063             | 0                | 18,063     | 419,467                       | 421,723                       | 1,412,953                         | 2,254,143  | 26,524                        | 61,349                      | 87,873     |
| 1967          | 41,574             | 0                | 41,574     | 539,115                       | 498,441                       | 1,686,099                         | 2,723,655  | 56,469                        | 118,263                     | 174,731    |
| 1968          | 128,628            | 0                | 128,628    | 663,852                       | 603,483                       | 1,985,221                         | 3,252,556  | 115,961                       | 229,807                     | 345,768    |
| 1969          | 254,715            | 0                | 254,715    | 787,401                       | 539,340                       | 2,083,253                         | 3,409,994  | 185,156                       | 358,861                     | 544,017    |
| 1970          | 277,547            | 0                | 277,547    | 823,176                       | 532,567                       | 2,202,766                         | 3,558,510  | 200,150                       | 387,675                     | 587,825    |
| 1971          | 227,474            | 0                | 227,474    | 788,298                       | 552,114                       | 2,169,897                         | 3,510,309  | 202,413                       | 392,912                     | 595,325    |
| 1972          | 224,978            | 0                | 224,978    | 830,079                       | 678,519                       | 2,320,420                         | 3,829,018  | 209,057                       | 406,589                     | 615,646    |
| 1973          | 221,091            | 31,366           | 252,457    | 795,368                       | 549,393                       | 2,338,620                         | 3,683,381  | 206,557                       | 402,724                     | 609,281    |
| 1974          | 240,498            | 32,938           | 273,437    | 819,207                       | 564,593                       | 2,506,359                         | 3,890,159  | 208,545                       | 407,090                     | 615,635    |
| 1975          | 237,459            | 36,291           | 273,750    | 869,169                       | 605,731                       | 2,409,923                         | 3,884,823  | 225,895                       | 439,873                     | 665,768    |
| 1976          | 271,292            | 40,836           | 312,127    | 959,986                       | 734,812                       | 2,500,505                         | 4,195,303  | 228,976                       | 447,299                     | 676,275    |
| 1977          | 293,627            | 45,096           | 338,723    | 924,224                       | 713,558                       | 2,476,399                         | 4,114,181  | 238,699                       | 468,721                     | 707,420    |
| 1978          | 273,870            | 49,178           | 323,048    | 979,647                       | 692,587                       | 2,785,987                         | 4,458,221  | 245,331                       | 484,259                     | 729,590    |
| 1979          | 289,479            | 53,340           | 342,819    | 1,044,898                     | 736,358                       | 2,813,578                         | 4,594,835  | 243,110                       | 483,437                     | 726,547    |
| 1980          | 310,846            | 67,748           | 378,594    | 1,162,998                     | 866,372                       | 3,028,205                         | 5,057,575  | 269,858                       | 537,074                     | 806,932    |
| 1981          | 347,781            | 87,408           | 435,189    | 1,128,765                     | 879,357                       | 2,917,582                         | 4,925,704  | 288,997                       | 586,257                     | 875,254    |
| 1982          | 438,335            | 106,918          | 545,254    | 1,166,741                     | 850,482                       | 3,262,104                         | 5,279,327  | 290,049                       | 582,757                     | 872,806    |
| 1983          | 354,787            | 151,259          | 506,046    | 1,178,397                     | 900,363                       | 3,795,446                         | 5,874,205  | 319,214                       | 633,181                     | 952,395    |
| 1984          | 467,336            | 224,245          | 691,581    | 1,470,602                     | 1,097,481                     | 5,737,801                         | 8,305,884  | 351,620                       | 695,559                     | 1,047,179  |
| 1985          | 736,074            | 364,305          | 1,100,379  | 1,921,134                     | 1,789,369                     | 6,551,546                         | 10,262,049 | 394,593                       | 776,994                     | 1,171,586  |
| 1986          | 1,084,728          | 692,479          | 1,777,207  | 1,748,425                     | 1,528,732                     | 8,863,230                         | 10,140,386 | 385,545                       | 762,684                     | 1,148,229  |
| 1987          | 1,773,801          | 1,559,243        | 3,333,044  | 2,238,374                     | 2,011,876                     | 6,675,354                         | 10,925,604 | 385,289                       | 812,310                     | 1,197,599  |
| 1988          | 2,231,563          | 2,333,792        | 4,565,355  | 2,240,092                     | 2,210,523                     | 6,368,850                         | 10,819,465 | 420,153                       | 978,621                     | 1,398,774  |
| 1989          | 2,397,272          | 3,326,435        | 5,723,708  | 2,156,459                     | 1,872,030                     | 5,916,713                         | 9,945,203  | 414,224                       | 1,162,723                   | 1,576,947  |
| 1990          | 2,746,135          | 3,433,320        | 6,179,455  | 2,575,822                     | 2,261,914                     | 6,668,440                         | 11,506,176 | 487,609                       | 1,234,409                   | 1,722,018  |
| 1991          | 2,748,636          | 3,682,311        | 6,430,947  | 1,755,451                     | 1,621,189                     | 4,527,927                         | 7,904,567  | 491,419                       | 1,476,387                   | 1,967,806  |
| 1992          | 2,554,529          | 3,528,957        | 6,083,486  | 2,076,631                     | 2,003,328                     | 5,385,858                         | 9,465,817  | 551,042                       | 1,491,156                   | 2,042,198  |
| 1993          | 2,592,888          | 3,504,240        | 6,097,128  | 2,881,873                     | 2,011,222                     | 6,511,865                         | 11,404,960 | 610,115                       | 1,675,438                   | 2,285,553  |
| 1994          | 2,718,328          | 3,537,460        | 6,255,788  | 2,908,624                     | 2,642,460                     | 7,314,515                         | 12,865,599 | 767,900                       | 2,473,449                   | 3,241,348  |
| 1995          | 2,649,273          | 3,509,935        | 6,159,208  | 3,036,985                     | 2,289,027                     | 5,893,667                         | 11,219,679 | 995,341                       | 4,977,122                   | 5,972,462  |
| 1996          | 2,699,210          | 3,891,715        | 6,590,926  | 2,586,128                     | 2,137,443                     | 6,675,492                         | 11,399,062 | 1,837,383                     | 13,766,531                  | 15,603,915 |
| 1997          | 2,641,891          | 3,631,175        | 6,273,066  | 2,659,383                     | 2,007,333                     | 6,551,469                         | 11,218,185 | 2,294,918                     | 21,860,553                  | 24,155,471 |
| 1998          | 2,538,764          | 3,478,062        | 6,016,827  | 2,265,780                     | 2,064,166                     | 6,296,050                         | 10,625,996 | 2,976,896                     | 26,690,793                  | 29,667,689 |
| 1999          | 2,689,372          | 3,841,375        | 6,530,748  | 2,887,101                     | 2,450,078                     | 8,373,830                         | 13,711,010 | 3,031,213                     | 27,471,599                  | 30,502,813 |
| 2000          | 2,833,448          | 4,318,306        | 7,151,754  | 3,899,130                     | 2,293,264                     | 6,997,582                         | 13,189,977 | 2,946,561                     | 27,902,696                  | 30,849,257 |
| 2001          | 3,367,971          | 4,981,620        | 8,349,591  | 7,407,449                     | 2,805,665                     | 8,476,291                         | 18,689,405 | 3,508,951                     | 30,065,033                  | 33,573,984 |
| 2002          | 3,560,718          | 5,085,056        | 8,645,773  | 10,845,603                    | 2,776,879                     | 9,918,512                         | 23,540,993 | 3,215,772                     | 29,687,112                  | 32,902,884 |
| 2003          | 3,673,109          | 5,421,007        | 9,094,116  | 7,506,857                     | 2,508,291                     | 8,733,646                         | 18,748,794 | 3,298,282                     | 29,947,615                  | 33,245,897 |
| 2004          | 4,153,705          | 5,673,129        | 9,826,835  | 5,705,530                     | 2,812,013                     | 8,201,355                         | 16,718,898 | 3,310,073                     | 30,388,459                  | 33,698,531 |
| 2005          | 3,512,694          | 5,179,857        | 8,692,551  | 5,718,088                     | 2,962,362                     | 8,965,675                         | 17,646,125 | 3,434,820                     | 30,519,580                  | 33,954,401 |
| 2006          | 3,435,347          | 4,681,447        | 8,116,794  | 5,634,015                     | 2,928,321                     | 9,020,779                         | 17,583,114 | 3,273,111                     | 30,134,913                  | 33,408,024 |
| 2007          | 3,660,689          | 5,243,252        | 8,903,941  | 6,773,659                     | 3,496,774                     | 10,405,417                        | 20,675,851 | 3,426,224                     | 31,315,784                  | 34,742,008 |
| 2008          | 4,335,993          | 5,118,604        | 9,454,597  | 5,758,258                     | 3,767,617                     | 10,517,248                        | 21,863,124 | 3,916,294                     | 32,537,512                  | 36,453,806 |
| 2009          | 4,784,006          | 5,183,201        | 9,967,207  | 6,601,154                     | 3,351,371                     | 10,424,427                        | 20,376,952 | 3,754,542                     | 30,994,412                  | 34,748,954 |
| 2010          | 5,028,005          | 6,574,828        | 11,602,833 | 7,468,938                     | 3,699,552                     | 11,252,613                        | 22,421,103 | 4,103,006                     | 33,172,692                  | 37,275,698 |
| 2011          | 5,375,465          | 6,922,506        | 12,297,971 | 8,654,128                     | 4,323,366                     | 12,909,626                        | 25,887,120 | 4,158,350                     | 34,083,759                  | 38,242,108 |
| 2012          | 5,788,044          | 6,761,400        | 12,549,444 | 5,971,087                     | 4,343,511                     | 12,225,605                        | 29,140,203 | 4,233,543                     | 34,766,847                  | 39,000,391 |
| 2013          | 5,501,261          | 6,698,714        | 12,199,975 | 10,455,758                    | 5,103,054                     | 15,243,115                        | 30,801,926 | 4,584,905                     | 36,995,073                  | 41,579,979 |
| 2014          | 6,135,340          | 7,626,741        | 13,762,081 | 10,410,788                    | 4,994,012                     | 15,621,389                        | 31,026,189 | 4,705,772                     | 35,001,730                  | 39,707,502 |
| 2015          | 6,177,810          | 7,779,360        | 13,957,170 | 11,116,697                    | 5,465,429                     | 17,236,954                        | 33,819,079 | 6,338,675                     | 38,261,290                  | 44,599,965 |
| 2016          | 6,155,205          | 7,733,126        | 13,888,331 | 11,410,132                    | 5,455,955                     | 17,812,330                        | 34,678,416 | 6,378,552                     | 38,569,733                  | 44,948,285 |
| 2017          | 6,383,150          | 7,861,330        | 14,244,480 | 11,079,425                    | 5,279,909                     | 16,458,075                        | 32,835,409 | 6,437,670                     | 38,601,558                  | 45,039,228 |
| 2018          | 6,301,881          | 7,894,347        | 14,196,228 | 10,845,317                    | 5,169,187                     | 16,157,688                        | 32,172,193 | 6,347,556                     | 38,482,656                  | 44,830,212 |
| 2019          | 6,274,981          | 7,939,746        | 14,214,727 | 10,852,517                    | 5,253,725                     | 15,736,711                        | 31,842,952 | 6,163,479                     | 38,565,379                  | 44,728,858 |
| 2020          | 6,292,069          | 7,983,526        | 14,275,595 | 10,864,109                    | 5,260,793                     | 15,774,803                        | 31,899,705 | 6,182,131                     | 38,660,075                  | 44,842,206 |
| 2021          | 6,314,192          | 8,030,377        | 14,344,569 | 11,012,641                    | 5,336,085                     | 15,979,492                        | 32,328,219 | 6,232,259                     | 38,824,289                  | 45,056,549 |
| 2022          | 6,333,225          | 8,073,955        | 14,407,180 | 11,003,322                    | 5,328,269                     | 15,983,965                        | 32,315,556 | 6,236,142                     | 38,886,322                  | 45,122,464 |
| 2023          | 6,350,580          | 8,082,439        | 14,433,019 | 11,093,253                    | 5,372,428                     | 16,112,819                        | 32,578,500 | 6,262,569                     | 38,999,127                  | 45,261,696 |
| 2024          | 6,366,904          | 8,124,043        | 14,490,947 | 11,040,307                    | 5,341,975                     | 16,065,439                        | 32,447,721 | 6,251,815                     | 39,030,585                  | 45,282,400 |
| 2025          | 6,374,111          | 8,161,547        | 14,535,659 | 11,063,877                    | 5,351,396                     | 16,113,022                        | 32,528,295 | 6,258,517                     | 39,101,065                  | 45,359,582 |
| 2026          | 6,391,089          | 8,202,916        | 14,594,005 | 11,125,209                    | 5,380,450                     | 16,208,182                        | 32,713,841 | 6,280,860                     | 39,205,445                  | 45,486,304 |
| 2027          | 6,410,612          | 8,245,370        | 14,655,982 | 11,078,570                    | 5,353,053                     | 16,168,010                        | 32,599,632 | 6,278,659                     | 39,254,861                  | 45,533,520 |
| 2028          | 6,428,825          | 8,287,451        | 14,716,276 | 11,341,275                    | 5,486,788                     | 16,511,807                        | 33,339,871 | 6,347,581                     | 39,463,280                  | 45,810,861 |
| 2029          | 6,447,522          | 8,330,374        | 14,777,896 | 11,402,869                    | 5,515,691                     | 16,606,690                        | 33,525,249 | 6,372,908                     | 39,574,548                  | 45,947,455 |
| 2030          | 6,458,445          | 8,361,910        | 14,820,356 | 11,211,339                    | 5,412,931                     | 16,388,833                        | 33,013,103 | 6,329,736                     | 39,534,363                  | 45,864,099 |
| 2031          | 6,466,226          | 8,389,091        | 14,855,317 | 11,402,461                    | 5,509,142                     | 16,644,984                        | 33,556,587 | 6,389,516                     | 39,713,703                  | 46,103,219 |
| 2032          | 6,476,368          | 8,416,885        | 14,893,253 | 11,335,942                    | 5,471,660                     | 16,583,248                        | 33,390,849 | 6,374,130                     | 39,744,972                  | 46,119,102 |
| 2033          | 6,467,969          | 8,418,649        | 14,886,618 | 11,693,034                    | 5,654,851                     | 17,047,113                        | 34,394,99  |                               |                             |            |

**TABLE B-19 Total Transportation Charge for Each Contractors <sup>a</sup>**

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| Calendar<br>Year | SAN JOAQUIN VALLEY AREA              |   |   |                          |                      |                       |                               |   | Total                |
|------------------|--------------------------------------|---|---|--------------------------|----------------------|-----------------------|-------------------------------|---|----------------------|
|                  | Dudley<br>Ridge<br>Water<br>District | Empire<br>West Side<br>Irrigation<br>District | Future<br>Contractor<br>San Joaquin<br>Valley | Kern County Water Agency |                      | County<br>of<br>Kings | Oak Flat<br>Water<br>District | Lake Basin<br>Water Storage<br>District |                      |
| [11]             | [12]                                 | [13]  | [14]  | [15]                     | [16]                 | [17]                  | [18]                          | [19]                                    |                      |
| 1961             | 0                                    | 0   | 0   | 0                        | 0                    | 0                     | 0                             | 0                                       | 0                    |
| 1962             | 0                                    | 0   | 0   | 0                        | 0                    | 0                     | 0                             | 0                                       | 0                    |
| 1963             | 0                                    | 0   | 0   | 0                        | 0                    | 0                     | 0                             | 0                                       | 0                    |
| 1964             | 0                                    | 0   | 2,725   | 0                        | 0                    | 0                     | 0                             | 0                                       | 2,725                |
| 1965             | 0                                    | 0   | 6,029   | 73,569                   | 0                    | 0                     | 0                             | 0                                       | 79,598               |
| 1966             | 0                                    | 0   | 12,039  | 137,330                  | 0                    | 0                     | 0                             | 0                                       | 149,368              |
| 1967             | 0                                    | 0   | 26,257  | 267,611                  | 0                    | 0                     | 0                             | 0                                       | 293,869              |
| 1968             | 185,112                              | 8,934   | 54,588  | 445,439                  | 1,546,828            | 13,770                | 11,645                        | 209,312                                 | 2,475,627            |
| 1969             | 180,720                              | 7,721   | 87,576  | 525,094                  | 2,397,118            | 12,625                | 10,653                        | 358,602                                 | 3,580,109            |
| 1970             | 202,786                              | 14,487  | 94,675  | 573,998                  | 2,921,006            | 12,790                | 13,192                        | 294,869                                 | 4,127,803            |
| 1971             | 199,142                              | 15,445  | 95,695  | 605,889                  | 3,794,264            | 17,764                | 14,498                        | 450,065                                 | 5,192,761            |
| 1972             | 221,782                              | 16,313  | 98,788  | 631,615                  | 4,971,756            | 15,220                | 20,855                        | 1,085,490                               | 7,061,819            |
| 1973             | 204,443                              | 12,384  | 97,550  | 639,250                  | 4,922,515            | 15,483                | 11,811                        | 410,749                                 | 6,314,186            |
| 1974             | 284,828                              | 12,353  | 98,460  | 697,026                  | 5,235,097            | 15,591                | 12,905                        | 600,651                                 | 6,956,910            |
| 1975             | 352,245                              | 13,297  | 106,703                                       | 714,888                  | 6,361,200            | 16,620                | 14,592                        | 731,975                                 | 8,311,521            |
| 1976             | 306,726                              | 13,843  | 108,084                                       | 773,628                  | 6,718,011            | 16,993                | 16,278                        | 567,200                                 | 8,520,765            |
| 1977             | 268,678                              | 10,954  | 112,554                                       | 796,324                  | 6,899,611            | 18,457                | 14,051                        | 513,973                                 | 8,634,601            |
| 1978             | 357,652                              | 4,441   | 115,521                                       | 889,236                  | 8,349,403            | 18,921                | 18,097                        | 507,824                                 | 10,261,095           |
| 1979             | 387,962                              | 13,690  | 114,253                                       | 895,406                  | 9,474,905            | 20,201                | 25,032                        | 957,027                                 | 11,888,475           |
| 1980             | 409,224                              | 12,041  | 125,950                                       | 888,893                  | 10,050,618           | 20,749                | 24,467                        | 741,417                                 | 12,273,358           |
| 1981             | 472,715                              | 29,882  | 134,169                                       | 1,076,040                | 11,503,041           | 24,939                | 23,087                        | 912,961                                 | 14,176,835           |
| 1982             | 467,224                              | 13,031  | 135,057                                       | 997,853                  | 12,342,798           | 22,955                | 22,559                        | 750,557                                 | 14,752,034           |
| 1983             | 640,523                              | 14,626  | 149,202                                       | 1,027,258                | 15,548,261           | 39,972                | 29,287                        | 428,605                                 | 17,877,734           |
| 1984             | 913,207                              | 15,040  | 164,505                                       | 2,019,472                | 23,725,278           | 54,428                | 59,811                        | 787,525                                 | 27,739,267           |
| 1985             | 1,101,757                            | 87,601  | 184,905                                       | 2,336,070                | 28,006,790           | 69,484                | 70,346                        | 2,173,239                               | 34,030,190           |
| 1986             | 1,265,999                            | 34,057  | 180,445                                       | 2,365,158                | 30,563,027           | 80,769                | 76,213                        | 2,187,878                               | 36,753,546           |
| 1987             | 1,124,579                            | 50,852  | 179,872                                       | 2,791,630                | 29,377,512           | 78,019                | 74,462                        | 2,247,079                               | 35,924,005           |
| 1988             | 1,110,191                            | 61,647  | 193,735                                       | 2,720,416                | 29,310,738           | 74,169                | 60,345                        | 2,204,911                               | 35,736,152           |
| 1989             | 1,145,714                            | 49,330  | 187,913                                       | 2,410,515                | 29,370,420           | 67,048                | 68,816                        | 2,448,489                               | 35,748,245           |
| 1990             | 867,245                              | 34,490  | 221,392                                       | 2,512,729                | 27,492,154           | 51,057                | 49,248                        | 1,875,759                               | 33,104,074           |
| 1991             | 585,751                              | 23,396  | 220,282                                       | 2,055,249                | 17,662,959           | 27,930                | 27,017                        | 1,236,324                               | 21,838,909           |
| 1992             | 955,414                              | 39,232  | 241,455                                       | 2,359,679                | 25,971,189           | 55,795                | 51,071                        | 1,913,464                               | 31,587,300           |
| 1993             | 1,167,704                            | 53,759  | 264,959                                       | 2,769,058                | 31,505,674           | 72,888                | 69,754                        | 2,647,052                               | 38,550,848           |
| 1994             | 1,022,794                            | 43,885  | 306,359                                       | 2,799,087                | 29,360,802           | 60,460                | 57,521                        | 2,122,982                               | 35,773,889           |
| 1995             | 1,519,482                            | 46,744  | 304,297                                       | 3,491,835                | 36,482,391           | 88,875                | 80,344                        | 2,777,092                               | 44,791,059           |
| 1996             | 1,348,944                            | 48,376  | 389,203                                       | 3,555,587                | 36,461,960           | 86,092                | 73,992                        | 4,322,982                               | 46,287,136           |
| 1997             | 1,390,473                            | 25,532  | 276,681                                       | 3,014,997                | 32,720,884           | 36,715                | 68,852                        | 1,677,060                               | 39,211,193           |
| 1998             | 1,234,357                            | 34,487  | 381,847                                       | 2,654,434                | 29,384,348           | 41,835                | 60,148                        | 1,807,304                               | 35,598,759           |
| 1999             | 1,228,742                            | 55,932  | 369,935                                       | 3,062,825                | 31,502,722           | 75,476                | 65,444                        | 4,170,303                               | 40,531,379           |
| 2000             | 1,057,052                            | 37,797  | 302,623                                       | 2,310,152                | 26,314,032           | 61,334                | 54,434                        | 2,761,650                               | 32,899,074           |
| 2001             | 1,751,390                            | 63,245  | 328,030                                       | 2,237,856                | 34,122,052           | 80,374                | 101,693                       | 3,074,034                               | 41,758,673           |
| 2002             | 1,318,880                            | 43,679  | 320,646                                       | 2,328,965                | 28,971,421           | 73,314                | 77,932                        | 2,551,736                               | 35,686,574           |
| 2003             | 1,388,076                            | 48,615  | 340,169                                       | 2,739,132                | 31,812,502           | 89,631                | 79,199                        | 2,871,881                               | 39,369,205           |
| 2004             | 1,443,525                            | 77,878  | 342,218                                       | 3,745,402                | 30,406,213           | 233,414               | 81,687                        | 2,384,189                               | 38,714,527           |
| 2005             | 2,027,749                            | 87,603  | 355,392                                       | 2,964,703                | 41,382,162           | 416,202               | 81,053                        | 3,424,955                               | 50,739,819           |
| 2006             | 1,756,346                            | 73,642  | 294,884                                       | 3,234,270                | 37,002,913           | 247,793               | 77,636                        | 2,746,502                               | 45,433,985           |
| 2007             | 1,642,716                            | 69,105  | 332,686                                       | 3,042,354                | 35,222,942           | 231,916               | 81,751                        | 2,922,974                               | 43,546,444           |
| 2008             | 1,491,576                            | 61,235  | 469,102                                       | 3,407,726                | 34,356,863           | 243,549               | 79,356                        | 2,393,928                               | 42,503,334           |
| 2009             | 1,220,022                            | 50,580  | 433,629                                       | 2,179,800                | 30,797,361           | 193,189               | 63,009                        | 2,036,715                               | 36,974,305           |
| 2010             | 1,482,985                            | 111,092                                       | 509,790                                       | 2,372,159                | 36,767,043           | 256,410               | 88,801                        | 2,713,365                               | 44,301,644           |
| 2011             | 2,162,688                            | 80,979  | 504,541                                       | 3,411,308                | 50,711,871           | 300,160               | 92,096                        | 2,696,639                               | 59,960,282           |
| 2012             | 1,257,727                            | 89,070  | 469,091                                       | 3,237,959                | 41,042,181           | 318,216               | 93,053                        | 3,484,686                               | 49,991,982           |
| 2013             | 1,677,183                            | 86,027  | 542,511                                       | 3,561,344                | 42,612,800           | 290,066               | 97,353                        | 2,848,683                               | 51,715,967           |
| 2014             | 1,481,346                            | 67,762  | 722,260                                       | 3,426,475                | 43,732,583           | 229,861               | 88,807                        | 2,231,237                               | 51,980,329           |
| 2015             | 1,882,518                            | 100,181                                       | 636,343                                       | 5,254,634                | 47,452,408           | 344,878               | 120,418                       | 3,265,355                               | 59,056,736           |
| 2016             | 1,814,659                            | 96,816  | 648,512                                       | 5,082,878                | 46,275,699           | 337,592               | 116,499                       | 3,141,937                               | 57,514,591           |
| 2017             | 1,809,830                            | 96,567  | 668,383                                       | 4,871,848                | 45,942,749           | 336,645               | 115,531                       | 3,134,392                               | 56,975,945           |
| 2018             | 1,735,499                            | 92,135  | 651,403                                       | 4,579,428                | 44,954,561           | 313,470               | 105,505                       | 3,005,255                               | 55,437,256           |
| 2019             | 1,677,857                            | 94,211  | 648,558                                       | 4,662,830                | 45,366,550           | 319,144               | 110,419                       | 3,085,034                               | 55,964,604           |
| 2020             | 1,598,102                            | 94,811  | 652,431                                       | 4,668,319                | 45,701,776           | 320,735               | 110,557                       | 3,102,669                               | 56,249,401           |
| 2021             | 1,656,235                            | 98,797  | 657,063                                       | 4,817,432                | 46,925,243           | 332,958               | 117,664                       | 3,220,647                               | 57,826,038           |
| 2022             | 1,634,159                            | 97,230  | 662,240                                       | 4,742,810                | 46,590,360           | 328,029               | 114,096                       | 3,174,061                               | 57,342,986           |
| 2023             | 1,668,586                            | 99,574  | 667,666                                       | 4,841,709                | 47,360,102           | 335,260               | 118,016                       | 3,243,381                               | 58,334,294           |
| 2024             | 1,620,851                            | 96,230  | 673,057                                       | 4,685,722                | 46,444,968           | 324,863               | 111,585                       | 3,144,125                               | 57,101,400           |
| 2025             | 1,623,281                            | 96,358  | 678,463                                       | 4,691,771                | 46,589,238           | 325,216               | 111,273                       | 3,147,776                               | 57,263,377           |
| 2026             | 1,633,108                            | 96,998  | 684,225                                       | 4,707,555                | 46,809,741           | 327,175               | 112,391                       | 3,166,587                               | 57,537,781           |
| 2027             | 1,591,395                            | 94,070  | 689,671                                       | 4,589,300                | 46,141,968           | 318,050               | 105,872                       | 3,079,646                               | 56,609,972           |
| 2028             | 1,712,081                            | 102,382                                       | 693,387                                       | 4,937,468                | 48,552,449           | 343,740               | 121,518                       | 3,325,864                               | 59,788,889           |
| 2029             | 1,728,922                            | 103,506                                       | 699,284                                       | 4,988,218                | 49,003,584           | 347,176               | 122,930                       | 3,359,024                               | 60,352,645           |
| 2030             | 1,605,572                            | 94,927  | 705,269                                       | 4,606,088                | 46,611,500           | 320,506               | 106,477                       | 3,104,559                               | 57,154,897           |
| 2031             | 1,702,785                            | 101,613                                       | 710,018                                       | 4,908,894                | 48,808,566           | 340,853               | 117,367                       | 3,302,581                               | 59,992,677           |
| 2032             | 1,628,867                            | 96,454  | 716,407                                       | 4,639,684                | 47,152,468           | 324,880               | 109,014                       | 3,149,499                               | 57,817,274           |
| 2033             | 1,814,069                            | 109,230                                       | 722,535                                       | 5,233,629                | 51,172,114           | 364,389               | 130,845                       | 3,528,007                               | 63,074,818           |
| 2034             | 1,675,154                            | 99,571  | 728,446                                       | 4,766,138                | 48,266,179           | 334,299               | 113,743                       | 3,241,552                               | 59,225,081           |
| 2035             | 1,998,730                            | 121,923                                       | 734,311                                       | 5,814,557                | 55,279,635           | 403,409               | 152,068                       | 3,903,914                               | 68,408,547           |
| <b>TOTAL</b>     | <b>82,095,632</b>                    | <b>4,049,696</b>                              | <b>26,438,900</b>                             | <b>201,865,604</b>       | <b>2,124,592,080</b> | <b>11,632,785</b>     | <b>4,978,039</b>              | <b>155,089,760</b>                      | <b>2,610,742,494</b> |

**TABLE B-19 Total Transportation Charge for Each Contractors <sup>a</sup>**

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |   |                     |                                       |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---|---------------------|---------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline - Lake Arrowhead Water Agency | Desert Water Agency | Little Rock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
| [20]          | [21]                                   | [22]                      | [23]                            | [24]                                    | [25]                | [26]                                  | [27]                | [28]                    | [29]   |   |
| 1961          | 0                                      | 0                         | 0                               | 0                                       | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1962          | 0                                      | 0                         | 0                               | 0                                       | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1963          | 34,411                                 | 0                         | 0                               | 0                                       | 726                 | 0                                     | 0                   | 0                       | 51,729   | 0   |
| 1964          | 64,494                                 | 27,447                    | 19,542                          | 4,370                                   | 38,211              | 1,143                                 | 30,324              | 8,205                   | 82,811   | 34,987                                      |
| 1965          | 121,484                                | 53,007                    | 34,348                          | 7,194                                   | 42,701              | 2,082                                 | 53,730              | 15,222                  | 135,069  | 35,344                                      |
| 1966          | 221,012                                | 101,264                   | 62,476                          | 12,478                                  | 76,886              | 3,753                                 | 96,944              | 27,679                  | 232,502  | 61,465                                      |
| 1967          | 427,622                                | 210,814                   | 121,269                         | 23,472                                  | 148,839             | 7,284                                 | 188,141             | 54,023                  | 433,350  | 115,574                                     |
| 1968          | 754,401                                | 478,372                   | 218,649                         | 41,509                                  | 265,168             | 12,870                                | 335,901             | 95,466                  | 782,163  | 208,927                                     |
| 1969          | 1,090,136                              | 724,768                   | 334,105                         | 61,226                                  | 394,024             | 18,693                                | 500,020             | 138,063                 | 1,205,834                                      | 321,755                                     |
| 1970          | 1,420,639                              | 904,744                   | 470,423                         | 89,700                                  | 552,223             | 25,231                                | 691,405             | 184,837                 | 1,778,187                                      | 467,573                                     |
| 1971          | 1,760,670                              | 1,088,715                 | 627,331                         | 128,360                                 | 754,065             | 31,837                                | 930,568             | 231,280                 | 2,538,219                                      | 659,414                                     |
| 1972          | 2,084,628                              | 1,307,789                 | 777,838                         | 175,023                                 | 971,501             | 42,063                                | 1,193,020           | 274,599                 | 3,371,743                                      | 865,095                                     |
| 1973          | 2,177,308                              | 1,323,930                 | 913,614                         | 183,270                                 | 1,174,449           | 43,313                                | 1,260,210           | 287,315                 | 3,919,292                                      | 946,686                                     |
| 1974          | 2,241,262                              | 1,383,433                 | 934,446                         | 192,851                                 | 1,205,307           | 45,049                                | 1,293,712           | 292,071                 | 3,983,075                                      | 990,064                                     |
| 1975          | 2,418,045                              | 1,451,591                 | 980,938                         | 205,729                                 | 1,276,653           | 48,373                                | 1,362,790           | 304,281                 | 4,152,070                                      | 1,088,342                                   |
| 1976          | 2,768,602                              | 1,447,000                 | 1,029,259                       | 214,713                                 | 1,352,442           | 51,351                                | 1,406,401           | 313,685                 | 4,292,603                                      | 1,141,598                                   |
| 1977          | 2,712,256                              | 1,516,153                 | 929,532                         | 225,070                                 | 1,194,916           | 47,299                                | 1,479,128           | 329,365                 | 4,520,755                                      | 1,197,216                                   |
| 1978          | 3,025,953                              | 1,601,049                 | 1,108,296                       | 230,643                                 | 1,465,635           | 47,073                                | 1,480,155           | 321,681                 | 4,458,326                                      | 1,208,720                                   |
| 1979          | 3,576,175                              | 1,635,737                 | 1,177,452                       | 237,530                                 | 1,564,123           | 48,367                                | 1,607,400           | 332,472                 | 4,422,373                                      | 1,152,375                                   |
| 1980          | 4,136,480                              | 1,717,500                 | 1,271,861                       | 259,401                                 | 1,730,656           | 53,348                                | 1,729,225           | 360,461                 | 4,835,652                                      | 1,269,446                                   |
| 1981          | 4,469,204                              | 1,971,239                 | 1,355,504                       | 271,181                                 | 1,850,802           | 77,806                                | 1,854,822           | 391,869                 | 5,224,182                                      | 1,357,680                                   |
| 1982          | 4,031,426                              | 2,062,991                 | 1,403,332                       | 280,313                                 | 1,936,175           | 55,961                                | 2,050,127           | 406,891                 | 5,410,876                                      | 1,565,182                                   |
| 1983          | 5,224,176                              | 2,325,322                 | 1,997,502                       | 333,081                                 | 2,880,959           | 69,381                                | 2,126,296           | 494,688                 | 6,020,929                                      | 1,556,652                                   |
| 1984          | 7,262,706                              | 3,367,082                 | 3,084,372                       | 445,339                                 | 4,608,046           | 75,773                                | 2,356,088           | 553,321                 | 7,049,449                                      | 2,331,849                                   |
| 1985          | 8,979,937                              | 3,751,564                 | 3,882,495                       | 540,388                                 | 5,883,195           | 79,232                                | 2,467,725           | 759,052                 | 7,740,359                                      | 2,378,394                                   |
| 1986          | 8,880,068                              | 4,319,233                 | 4,308,841                       | 577,473                                 | 6,571,197           | 102,399                               | 2,577,787           | 1,000,062               | 7,857,569                                      | 3,047,740                                   |
| 1987          | 8,897,753                              | 4,159,956                 | 4,164,707                       | 604,982                                 | 6,418,840           | 211,808                               | 2,611,006           | 1,026,398               | 9,224,608                                      | 3,034,142                                   |
| 1988          | 8,373,323                              | 4,223,334                 | 4,163,832                       | 616,000                                 | 6,482,143           | 124,667                               | 2,666,148           | 779,820                 | 9,505,260                                      | 2,828,998                                   |
| 1989          | 8,750,651                              | 4,103,287                 | 3,808,646                       | 586,595                                 | 5,952,263           | 170,571                               | 2,614,032           | 1,442,627               | 8,944,265                                      | 2,930,396                                   |
| 1990          | 10,040,074                             | 4,543,761                 | 4,487,885                       | 620,394                                 | 7,014,185           | 289,349                               | 2,812,341           | 1,639,830               | 9,795,020                                      | 3,678,107                                   |
| 1991          | 6,542,000                              | 3,512,692                 | 2,996,131                       | 567,450                                 | 4,550,559           | 175,137                               | 3,572,283           | 1,294,608               | 8,921,839                                      | 3,035,639                                   |
| 1992          | 8,644,005                              | 4,470,258                 | 3,068,616                       | 470,165                                 | 4,667,983           | 121,335                               | 4,374,237           | 1,129,578               | 8,573,361                                      | 2,980,091                                   |
| 1993          | 9,028,570                              | 4,101,673                 | 3,267,678                       | 472,817                                 | 4,993,632           | 157,747                               | 4,253,800           | 1,347,511               | 9,505,683                                      | 3,320,012                                   |
| 1994          | 11,216,190                             | 4,713,885                 | 3,313,737                       | 554,651                                 | 5,066,159           | 225,809                               | 5,247,690           | 1,698,991               | 10,209,084                                     | 4,076,706                                   |
| 1995          | 10,817,875                             | 4,971,724                 | 4,087,603                       | 509,163                                 | 6,340,703           | 155,561                               | 4,335,917           | 1,527,248               | 9,443,228                                      | 3,715,377                                   |
| 1996          | 11,187,158                             | 5,159,804                 | 7,025,781                       | 553,232                                 | 11,183,947          | 150,613                               | 4,403,511           | 1,867,203               | 9,869,330                                      | 3,807,422                                   |
| 1997          | 11,437,950                             | 4,926,525                 | 6,588,592                       | 579,280                                 | 12,422,989          | 144,833                               | 4,707,765           | 1,869,307               | 11,268,380                                     | 4,037,862                                   |
| 1998          | 9,956,830                              | 4,554,992                 | 5,663,864                       | 546,645                                 | 5,928,447           | 146,074                               | 5,744,122           | 1,474,029               | 11,192,751                                     | 3,321,115                                   |
| 1999          | 11,473,042                             | 4,978,526                 | 4,648,108                       | 637,393                                 | 6,003,270           | 146,909                               | 5,982,328           | 1,853,582               | 12,338,933                                     | 4,177,208                                   |
| 2000          | 10,478,522                             | 6,775,540                 | 3,003,040                       | 592,249                                 | 4,283,553           | 115,122                               | 5,734,096           | 1,435,004               | 11,852,182                                     | 3,228,831                                   |
| 2001          | 20,726,997                             | 12,506,077                | 4,120,482                       | 799,685                                 | 6,382,599           | 127,868                               | 6,460,126           | 3,360,265               | 17,902,902                                     | 3,399,314                                   |
| 2002          | 11,989,296                             | 9,666,424                 | 3,358,200                       | 759,145                                 | 5,124,975           | 109,651                               | 5,577,541           | 2,737,378               | 18,763,083                                     | 4,782,882                                   |
| 2003          | 13,369,255                             | 10,725,897                | 3,481,778                       | 729,898                                 | 5,327,081           | 115,340                               | 7,243,479           | 2,277,243               | 17,180,168                                     | 4,953,090                                   |
| 2004          | 14,215,575                             | 11,773,616                | 4,106,151                       | 828,570                                 | 5,358,625           | 124,069                               | 7,347,915           | 2,513,674               | 21,488,032                                     | 4,385,427                                   |
| 2005          | 14,615,883                             | 10,819,710                | 17,771,949                      | 653,631                                 | 10,262,610          | 114,208                               | 7,147,250           | 2,562,018               | 19,541,614                                     | 4,647,075                                   |
| 2006          | 16,116,664                             | 9,959,594                 | 27,352,404                      | 635,132                                 | 9,897,467           | 122,503                               | 9,868,650           | 2,491,547               | 19,305,174                                     | 4,679,292                                   |
| 2007          | 19,644,375                             | 13,382,247                | 26,200,530                      | 883,318                                 | 9,390,050           | 126,895                               | 13,692,812          | 4,033,532               | 25,546,781                                     | 3,845,748                                   |
| 2008          | 17,149,233                             | 15,319,129                | 25,777,742                      | 809,889                                 | 10,320,296          | 135,749                               | 12,033,693          | 3,952,242               | 25,690,383                                     | 4,810,118                                   |
| 2009          | 14,811,314                             | 12,899,681                | 23,217,612                      | 780,111                                 | 8,101,156           | 133,512                               | 11,599,914          | 3,663,806               | 25,308,346                                     | 5,239,379                                   |
| 2010          | 17,586,866                             | 12,750,978                | 31,896,390                      | 695,208                                 | 11,015,800          | 122,957                               | 14,022,637          | 3,028,737               | 27,897,292                                     | 6,801,326                                   |
| 2011          | 23,790,149                             | 12,326,100                | 33,213,282                      | 749,019                                 | 11,912,245          | 136,184                               | 7,561,975           | 2,974,220               | 25,001,930                                     | 7,453,305                                   |
| 2012          | 24,540,009                             | 14,684,482                | 40,735,086                      | 861,056                                 | 14,605,402          | 149,417                               | 9,432,201           | 4,472,580               | 39,014,274                                     | 7,888,391                                   |
| 2013          | 20,235,826                             | 17,895,992                | 32,106,767                      | 1,110,958                               | 11,362,413          | 174,429                               | 9,730,945           | 3,637,890               | 30,273,924                                     | 6,190,445                                   |
| 2014          | 15,093,388                             | 18,846,364                | 26,378,644                      | 1,503,169                               | 8,930,415           | 204,170                               | 9,509,658           | 3,479,712               | 32,112,651                                     | 5,089,526                                   |
| 2015          | 27,546,233                             | 19,984,721                | 1,615,573                       | 14,076,031                              | 44,690              | 18,901,794                            | 4,066,969           | 38,766,354              | 7,910,570                                      |   |
| 2016          | 26,665,571                             | 19,644,382                | 39,260,078                      | 1,592,758                               | 13,793,308          | 434,231                               | 18,739,341          | 3,936,768               | 38,558,866                                     | 7,775,500                                   |
| 2017          | 27,046,083                             | 19,678,109                | 40,306,179                      | 1,593,592                               | 14,078,299          | 442,655                               | 18,931,803          | 3,997,167               | 38,651,020                                     | 7,866,328                                   |
| 2018          | 27,767,709                             | 19,951,904                | 41,467,238                      | 1,627,155                               | 14,427,971          | 453,872                               | 19,442,503          | 4,104,712               | 39,173,700                                     | 8,010,497                                   |
| 2019          | 25,923,648                             | 16,453,773                | 40,768,348                      | 1,555,949                               | 13,918,318          | 430,639                               | 20,355,184          | 3,893,303               | 37,970,447                                     | 7,670,137                                   |
| 2020          | 26,165,154                             | 16,548,253                | 41,228,429                      | 1,556,432                               | 13,991,316          | 433,490                               | 20,864,476          | 3,925,227               | 37,866,131                                     | 7,648,584                                   |
| 2021          | 26,100,414                             | 16,612,604                | 40,897,998                      | 1,532,708                               | 13,869,683          | 431,470                               | 20,765,937          | 3,912,515               | 37,446,617                                     | 7,545,019                                   |
| 2022          | 26,064,647                             | 16,642,910                | 40,213,565                      | 1,522,635                               | 13,745,397          | 430,755                               | 20,717,027          | 3,907,047               | 37,227,913                                     | 7,491,711                                   |
| 2023          | 26,258,444                             | 16,938,140                | 39,777,960                      | 1,531,692                               | 13,724,687          | 433,856                               | 20,869,810          | 3,935,943               | 37,320,335                                     | 7,513,368                                   |
| 2024          | 25,816,044                             | 16,781,753                | 39,268,147                      | 1,509,432                               | 13,530,431          | 426,725                               | 20,520,984          | 3,869,252               | 36,969,656                                     | 7,412,350                                   |
| 2025          | 25,955,927                             | 17,032,356                | 39,448,230                      | 1,517,139                               | 13,605,941          | 429,063                               | 20,663,340          | 3,890,345               | 37,137,279                                     | 7,453,548                                   |
| 2026          | 25,684,947                             | 17,005,624                | 39,100,036                      | 1,504,917                               | 13,470,647          | 424,707                               | 20,450,242          | 3,849,498               | 36,909,385                                     | 7,383,337                                   |
| 2027          | 26,002,478                             | 17,230,452                | 39,482,891                      | 1,521,275                               | 13,626,901          | 429,945                               | 20,702,949          | 3,897,355               | 37,232,516                                     | 7,467,335                                   |
| 2028          | 26,130,560                             | 17,471,205                | 39,622,039                      | 1,527,756                               | 13,677,930          | 432,092                               | 20,779,206          | 3,916,644               | 37,365,200                                     | 7,497,581                                   |
| 2029          | 26,431,164                             | 17,720,834                | 40,018,196                      | 1,543,097                               | 13,832,078          | 437,057                               | 21,000,268          | 3,962,027               | 37,693,309                                     | 7,582,554                                   |
| 2030          | 25,754,366                             | 17,391,573                | 39,401,717                      | 1,517,190                               | 13,576,301          | 426,135                               | 20,571,972          | 3,860,317               | 37,267,915                                     | 7,455,720                                   |
| 2031          | 27,235,286                             | 18,186,752                | 40,966,294                      | 1,582,716                               | 14,202,115          | 450,266                               | 21,613,827          | 4,084,047               | 38,460,003                                     | 7,783,852                                   |
| 2032          | 25,279,561                             | 17,348,610                | 39,061,336                      | 1,499,687                               | 13,426,816          | 418,530                               | 20,254,730          | 3,789,686               | 37,078,177                                     | 7,388,367                                   |
| 2033          | 27,592,656                             | 18,697,116                | 41,437,637                      | 1,603,858                               | 14,374,557          | 456,250                               | 21,919,596          |                         |  |   |

**TABLE B-19 Total Transportation Charge for Each Contractors<sup>a</sup>**

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |                | FEATHER RIVER AREA |                 |                      |         | South Bay Area Future Contractor | GRAND TOTAL    |
|---------------|--------------------------------------|--|--|----------------|--------------------|-----------------|----------------------|---------|----------------------------------|----------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total          | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total   |                                  |                |
| 1961          | [30]                                 | [31]   | [32]   | [33]           | [34]               | [35]            | [36]                 | [37]    | [38]                             | [39]           |
| 1962          | 0                                    | 0  | 0  | 0              | 0                  | 0               | 0                    | 0       | 0                                | 0              |
| 1963          | 0                                    | 690,812  | 0  | 777,678        | 0                  | 0               | 0                    | 0       | 3,219                            | 79,888         |
| 1964          | 21,735                               | 1,260,513  | 9,378  | 1,603,161      | 0                  | 0               | 0                    | 0       | 12,626                           | 1,628,026      |
| 1965          | 21,866                               | 2,180,589  | 17,766                                       | 2,720,401      | 0                  | 0               | 405                  | 405     | 13,938                           | 2,810,279      |
| 1966          | 37,964                               | 3,900,172  | 33,426                                       | 4,868,023      | 0                  | 0               | 565                  | 565     | 31,321                           | 7,409,357      |
| 1967          | 71,283                               | 7,693,703  | 68,155                                       | 9,563,529      | 0                  | 0               | 562                  | 562     | 47,718                           | 12,845,638     |
| 1968          | 128,915                              | 15,317,881   | 142,803                                      | 18,783,026     | 0                  | 0               | 564                  | 564     | 46,945                           | 25,033,113     |
| 1969          | 198,764                              | 23,153,064   | 215,209                                      | 28,355,662     | 0                  | 0               | 3,191                | 3,191   | 52,963                           | 36,200,650     |
| 1970          | 289,633                              | 30,617,164   | 273,605                                      | 37,765,363     | 0                  | 0               | 15,121               | 15,121  | 69,744                           | 46,401,913     |
| 1971          | 409,327                              | 39,958,997   | 342,425                                      | 49,461,209     | 0                  | 0               | 16,001               | 16,001  | 55,532                           | 59,058,610     |
| 1972          | 537,186                              | 52,853,168   | 422,304                                      | 64,875,959     | 0                  | 0               | 17,372               | 17,372  | 80,412                           | 76,705,204     |
| 1973          | 587,963                              | 57,132,802   | 435,655                                      | 70,385,807     | 0                  | 0               | 17,334               | 17,334  | 54,219                           | 81,316,664     |
| 1974          | 611,428                              | 61,587,913   | 455,555                                      | 75,216,175     | 0                  | 0               | 17,477               | 17,477  | 76,783                           | 87,046,575     |
| 1975          | 644,621                              | 66,557,535   | 478,403                                      | 80,969,370     | 0                  | 0               | 18,406               | 18,406  | 84,547                           | 94,208,183     |
| 1976          | 668,315                              | 68,253,113   | 475,587                                      | 83,414,670     | 0                  | 0               | 17,477               | 17,477  | 106,717                          | 97,243,334     |
| 1977          | 696,515                              | 66,053,753   | 507,063                                      | 81,409,021     | 0                  | 0               | 18,232               | 18,232  | 98,618                           | 95,320,795     |
| 1978          | 709,040                              | 72,706,513   | 523,177                                      | 88,886,260     | 0                  | 0               | 17,381               | 17,381  | 100,786                          | 104,776,381    |
| 1979          | 712,866                              | 72,440,511   | 526,405                                      | 89,433,787     | 0                  | 0               | 20,579               | 20,579  | 119,352                          | 107,126,393    |
| 1980          | 777,981                              | 79,926,555   | 571,232                                      | 98,639,800     | 0                  | 0               | 17,761               | 17,761  | 178,812                          | 117,352,832    |
| 1981          | 806,031                              | 91,261,394   | 636,404                                      | 111,528,117    | 0                  | 0               | 21,193               | 21,193  | 185,347                          | 132,147,639    |
| 1982          | 853,400                              | 93,144,740   | 670,375                                      | 113,871,790    | 0                  | 0               | 28,423               | 28,423  | 173,894                          | 135,523,527    |
| 1983          | 952,131                              | 101,787,700  | 803,591                                      | 126,572,408    | 0                  | 0               | 19,276               | 19,276  | 220,926                          | 152,022,990    |
| 1984          | 1,072,639                            | 137,507,077  | 868,967                                      | 170,582,708    | 0                  | 0               | 21,114               | 21,114  | 225,959                          | 208,613,692    |
| 1985          | 1,120,854                            | 173,442,297  | 908,769                                      | 211,934,259    | 0                  | 0               | 20,239               | 20,239  | 340,322                          | 258,859,025    |
| 1986          | 1,149,714                            | 193,242,026  | 937,311                                      | 234,571,421    | 0                  | 0               | 20,139               | 20,139  | 279,227                          | 284,690,156    |
| 1987          | 1,172,015                            | 178,764,439  | 908,034                                      | 221,198,689    | 0                  | 0               | 19,742               | 19,742  | 345,116                          | 272,943,798    |
| 1988          | 1,208,206                            | 190,243,523  | 904,868                                      | 232,120,120    | 0                  | 0               | 17,900               | 17,900  | 365,207                          | 285,022,973    |
| 1989          | 1,194,911                            | 193,235,260  | 932,599                                      | 234,666,103    | 0                  | 0               | 19,158               | 19,158  | 422,329                          | 288,101,692    |
| 1990          | 1,297,621                            | 239,540,417  | 1,486,755                                    | 287,245,739    | 0                  | 0               | 18,148               | 18,148  | 474,284                          | 340,249,893    |
| 1991          | 1,354,921                            | 179,950,983  | 1,141,118                                    | 217,615,359    | 0                  | 0               | 21,018               | 21,018  | 214,683                          | 255,993,289    |
| 1992          | 1,349,184                            | 196,166,977  | 1,025,285                                    | 237,041,076    | 0                  | 0               | 18,014               | 18,014  | 443,676                          | 286,681,566    |
| 1993          | 1,507,550                            | 169,493,328  | 1,068,135                                    | 212,518,137    | 0                  | 0               | 20,999               | 20,999  | 599,571                          | 271,477,197    |
| 1994          | 1,497,753                            | 209,282,955  | 1,008,952                                    | 258,112,563    | 0                  | 0               | 19,649               | 19,649  | 609,966                          | 316,878,803    |
| 1995          | 1,520,622                            | 173,420,265  | 1,061,324                                    | 221,906,608    | 0                  | 0               | 20,277               | 20,277  | 534,971                          | 290,604,264    |
| 1996          | 1,527,165                            | 181,404,029  | 1,103,254                                    | 239,242,451    | 0                  | 0               | 25,378               | 25,378  | 571,857                          | 319,720,724    |
| 1997          | 1,730,348                            | 186,736,526  | 1,216,560                                    | 242,666,917    | 0                  | 0               | 24,820               | 24,820  | 428,638                          | 323,978,289    |
| 1998          | 1,920,021                            | 168,571,967  | 1,237,386                                    | 220,258,243    | 0                  | 0               | 0                    | 0       | 465,095                          | 302,632,609    |
| 1999          | 2,167,221                            | 191,636,505  | 1,264,332                                    | 247,307,358    | 0                  | 0               | 0                    | 0       | 584,116                          | 339,167,423    |
| 2000          | 2,399,003                            | 183,077,408  | 1,314,848                                    | 234,289,399    | 0                  | 0               | 0                    | 0       | 0                                | 318,379,462    |
| 2001          | 3,320,640                            | 376,219,655  | 1,619,721                                    | 456,946,333    | 0                  | 0               | 0                    | 0       | 0                                | 559,317,987    |
| 2002          | 4,666,474                            | 264,579,150  | 1,648,122                                    | 333,762,321    | 0                  | 0               | 0                    | 0       | 0                                | 434,538,546    |
| 2003          | 5,926,710                            | 292,976,972  | 1,668,685                                    | 365,975,595    | 0                  | 0               | 20,768               | 20,768  | 0                                | 466,454,377    |
| 2004          | 6,247,966                            | 339,477,923  | 1,907,976                                    | 419,775,520    | 0                  | 0               | 20,830               | 20,830  | 0                                | 518,755,141    |
| 2005          | 6,521,637                            | 312,278,715  | 1,397,164                                    | 408,333,463    | 0                  | 0               | 20,827               | 20,827  | 0                                | 519,387,186    |
| 2006          | 7,009,301                            | 289,255,961  | 1,331,393                                    | 398,025,082    | 0                  | 0               | 21,242               | 21,242  | 0                                | 502,588,242    |
| 2007          | 7,650,449                            | 374,705,197  | 1,875,258                                    | 500,977,192    | 0                  | 0               | 20,891               | 20,891  | 0                                | 608,866,326    |
| 2008          | 8,927,839                            | 341,199,752  | 2,275,058                                    | 468,401,123    | 0                  | 0               | 22,367               | 22,367  | 0                                | 578,698,351    |
| 2009          | 9,156,163                            | 301,594,676  | 2,068,705                                    | 418,574,375    | 0                  | 0               | 18,216               | 18,216  | 0                                | 520,660,009    |
| 2010          | 10,247,266                           | 350,652,282  | 2,112,455                                    | 488,830,194    | 0                  | 0               | 18,437               | 18,437  | 0                                | 604,449,910    |
| 2011          | 11,019,462                           | 391,219,132  | 2,095,385                                    | 529,452,388    | 0                  | 0               | 20,124               | 20,124  | 0                                | 665,859,992    |
| 2012          | 11,930,569                           | 384,616,326  | 2,384,551                                    | 555,314,344    | 0                  | 0               | 18,518               | 18,518  | 0                                | 686,014,882    |
| 2013          | 12,703,606                           | 383,547,695  | 2,384,477                                    | 531,355,368    | 0                  | 0               | 17,698               | 17,698  | 0                                | 667,670,913    |
| 2014          | 15,662,554                           | 349,251,519  | 2,039,253                                    | 488,101,024    | 0                  | 0               | 17,530               | 17,530  | 0                                | 624,594,656    |
| 2015          | 16,565,966                           | 438,573,276  | 2,408,058                                    | 629,664,395    | 0                  | 0               | 17,147               | 17,147  | 0                                | 781,114,493    |
| 2016          | 16,622,887                           | 430,230,404  | 2,364,938                                    | 619,619,033    | 0                  | 0               | 16,996               | 16,996  | 0                                | 770,665,651    |
| 2017          | 16,686,999                           | 432,020,496  | 2,348,562                                    | 623,647,292    | 0                  | 0               | 16,987               | 16,987  | 0                                | 772,759,341    |
| 2018          | 16,773,085                           | 439,146,686  | 2,326,603                                    | 634,652,634    | 0                  | 0               | 16,986               | 16,986  | 0                                | 781,305,508    |
| 2019          | 16,572,965                           | 417,937,357  | 3,309,702                                    | 606,759,772    | 0                  | 0               | 14,361               | 14,361  | 0                                | 753,525,274    |
| 2020          | 16,572,837                           | 419,394,767  | 3,315,735                                    | 609,510,831    | 0                  | 0               | 2,433                | 2,433   | 0                                | 756,780,171    |
| 2021          | 16,527,555                           | 415,730,283  | 3,286,795                                    | 604,659,597    | 0                  | 0               | 1,609                | 1,609   | 0                                | 754,216,580    |
| 2022          | 16,507,607                           | 411,764,879  | 3,260,890                                    | 599,496,983    | 0                  | 0               | 225                  | 225     | 0                                | 748,685,394    |
| 2023          | 16,530,514                           | 413,777,505  | 3,288,733                                    | 601,900,986    | 0                  | 0               | 226                  | 226     | 0                                | 752,508,722    |
| 2024          | 16,481,396                           | 406,007,285  | 3,227,488                                    | 591,820,942    | 0                  | 0               | 227                  | 227     | 0                                | 741,143,637    |
| 2025          | 16,513,231                           | 408,578,345  | 3,250,115                                    | 595,474,859    | 0                  | 0               | 227                  | 227     | 0                                | 745,161,998    |
| 2026          | 16,486,967                           | 404,669,432  | 3,224,917                                    | 590,164,657    | 0                  | 0               | 227                  | 227     | 0                                | 740,496,817    |
| 2027          | 16,554,261                           | 408,885,790  | 3,255,504                                    | 596,289,653    | 0                  | 0               | 227                  | 227     | 0                                | 745,688,986    |
| 2028          | 16,587,616                           | 410,948,794  | 3,274,129                                    | 599,230,751    | 0                  | 0               | 227                  | 227     | 0                                | 752,886,875    |
| 2029          | 16,654,977                           | 414,840,158  | 3,299,179                                    | 605,014,898    | 0                  | 0               | 226                  | 226     | 0                                | 759,618,371    |
| 2030          | 16,593,836                           | 405,443,960  | 3,222,158                                    | 592,483,161    | 0                  | 0               | 227                  | 227     | 0                                | 743,335,844    |
| 2031          | 16,807,265                           | 422,784,670  | 3,340,073                                    | 617,497,167    | 0                  | 0               | 228                  | 228     | 0                                | 772,005,195    |
| 2032          | 16,586,655                           | 398,293,560  | 3,152,789                                    | 583,578,504    | 0                  | 0               | 228                  | 228     | 0                                | 735,799,211    |
| 2033          | 16,899,843                           | 427,377,650  | 3,372,403                                    | 624,615,659    | 0                  | 0               | 230                  | 230     | 0                                | 783,498,761    |
| 2034          | 16,666,494                           | 402,326,838  | 3,180,040                                    | 589,573,256    | 0                  | 0               | 231                  | 231     | 0                                | 743,886,382    |
| 2035          | 17,239,954                           | 455,621,274  | 3,573,980                                    | 665,095,619    | 0                  | 0               | 231                  | 231     | 0                                | 830,598,541    |
| TOTAL         | 505,350,259                          | 17,690,122,938   | 118,088,024                                  | 24,306,953,336 | 0                  | 0               | 881,070              | 881,070 | 8,748,370                        | 30,364,606,469 |

## TABLE B-20A Calculation of Delta Water Rates

### Calculation in accordance with Article 53(i) of the Monterey Amendment

(Values in millions of dollars [\$] or millions of acre-feet [AF] discounted to 2014 at 4.610 percent per annum)

| Procedure   | Capital Cost Component | Minimum Operation, Maintenance, Power and Replacement Component (a) |                       | Total Delta Water Rate |                            |
|---|------------------------|---|-----------------------|------------------------|----------------------------|
|   | [1]                    | [2]   |                       | [3]                    |                            |
| <b>Commencing in 2015</b>   |                        |   |                       |                        |                            |
| Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Table A Amounts during the Project Repayment Period | \$7,383.12 (b)         | 425.94 AF   | \$6,587.94 (c)        | 425.94 AF              | \$13,971.06 425.94 AF      |
| Less, Project Power Revenues to be Realized During the Project Repayment Period   | (3,736.41)             |   | (3,240.36)            |                        | (\$6,976.77)               |
| Less, Delta Water Charges Paid and Project Water Table A Amounts, Prior to 2015   | (2,648.13) (d)         | (370.55) AF   | (1,369.23)            | (370.55) AF            | (\$4,017.36) (370.55) AF   |
| <b>TOTAL</b>  | <b>\$998.57</b>        | <b>55.39 AF</b>   | <b>\$1,978.36</b>     | <b>55.39 AF</b>        | <b>\$2,976.93 55.39 AF</b> |
| Rate Applicable in 2015   | \$18.03 per acre-foot  |   | \$35.72 per acre-foot |                        | \$53.75 per acre-foot      |

### Calculation under original provisions, without the Monterey Amendment

(for Plumas and Empire)

| Procedure   | Capital Cost Component | Minimum Operation, Maintenance, Power and Replacement Component (a) |                       | Total Delta Water Rate |                            |
|---|------------------------|---|-----------------------|------------------------|----------------------------|
|   | [4]                    | [5]   |                       | [6]                    |                            |
| <b>Commencing in 2015</b>   |                        |   |                       |                        |                            |
| Total Costs of "Initial" Project Conservation Facilities to be Reimbursed and Project Water Table A Amounts during the Project Repayment Period | \$7,366.15 (b)         | 425.94 AF   | \$6,556.74 (c)        | 425.94 AF              | \$13,922.88 425.94 AF      |
| Less, Project Power Revenues to be Realized During the Project Repayment Period   | (3,736.41)             |   | (3,240.36)            |                        | (\$6,976.77)               |
| Less, Delta Water Charges Paid and Project Water Table A Amounts, Prior to 2015   | (2,648.13) (d)         | (370.55) AF   | (1,369.23)            | (370.55) AF            | (\$4,017.36) (370.55) AF   |
| <b>TOTAL</b>  | <b>\$981.60</b>        | <b>55.39 AF</b>   | <b>\$1,947.15</b>     | <b>55.39 AF</b>        | <b>\$2,928.75 55.39 AF</b> |
| Rate Applicable in 2015   | \$17.72 per acre-foot  |   | \$35.16 per acre-foot |                        | \$52.88 per acre-foot      |

- (a) Considering that all operating costs of Project Conservation Facilities will not vary with annual amounts of Project water delivered, and therefore are properly classified as "Minimum" OMP&R Costs. OMP&R costs exclude amounts for Conservation RAS.
- (b) Including net credits of \$4,850,000 for settlements as to the magnitude of Project Capital costs incurred prior to December 31, 1960, and net credits of \$6,678,320 for settlement as to the magnitude of Project Capital costs incurred during the 1961 through 1978 period.
- (c) Includes conservation power costs and credits at San Luis.
- (d) Applying all Delta Water Charges paid prior to 1970 to reimburse Capital costs (the charge was not divided into components until 1970).

**TABLE B-20B Delta Water Rates by Facility**

(in dollars per acre-foot)

| Item   | Capital Cost Component | Minimum Operation, Maintenance, Power and Replacement Component | Total Delta Water Rate |
|--|------------------------|---|------------------------|
|  | [1]                    | [2]   | [3]                    |
| <b>Initial Conservation Facilities</b>       |                        |   |                        |
| Oroville Division                            |                        |   |                        |
| Water Supply and power costs (a)             | 79.79                  | 54.74   | 134.53                 |
| Less, Oroville Power Revenues                | <u>-45.79</u>          | <u>-24.72</u>   | <u>-70.51</u>          |
| Subtotal                                     | 34.00                  | 30.02   | 64.02                  |
| Delta Facilities (b)                         | 24.02                  | 37.74   | 61.77                  |
| California Aqueduct, portion                 |                        |   |                        |
| Reach 1                                      | 4.94                   | 9.20  | 14.14                  |
| Reach 2A                                     | 2.87                   | 1.19  | 4.06                   |
| Reach 2B                                     | 1.50                   | 0.88  | 2.37                   |
| Reach 3                                      | <u>1.03</u>            | <u>0.50</u>   | <u>1.53</u>            |
| Subtotal                                     | 10.33                  | 11.77   | 22.10                  |
| San Luis Facilities                          | 14.67                  | 14.13   | 28.80                  |
| Planning and preoperating costs through 2013 | 4.18                   | 0.00  | 4.18                   |
| 45,000 AF relinquished costs                 | 0.31                   | 0.56  | 0.87                   |
| Less, Capital Cost Credits                   | -2.02                  | 0.00  | -2.02                  |
| Less, Delta Water Charges paid prior to 2015 | <u>-67.46</u>          | <u>-58.51</u>   | <u>-125.97</u>         |
| Rate applicable in 2015                      | 18.03                  | 35.72   | 53.75                  |

(a) Includes revenue received from non-SWP contractors.

(b) Includes 1. Delta Facility planning costs, 2. Delta Studies costs, and 3. Suisun Marsh Facilities Costs.

**TABLE B-21 Total Delta Water Charge for Each Contractor**

(in dollars)

Sheet 1 of 4

| Calendar<br>Year | NORTH BAY AREA           |                        |             | SOUTH BAY AREA                         |  |  |             | CENTRAL COASTAL AREA                   |                                      |             |
|------------------|--------------------------|------------------------|-------------|--|--|--|-------------|--|--------------------------------------|-------------|
|                  | Napa<br>County<br>FC&WCD | Solano<br>County<br>WA | Total       | Alameda<br>County<br>FC&WCD,<br>Zone 7 | Alameda<br>County<br>Water<br>District | Santa Clara<br>Valley<br>Water<br>District | Total       | San Luis<br>Obispo<br>County<br>FC&WCD | Santa<br>Barbara<br>County<br>FC&WCD | Total       |
|                  | [1]                      | [2]                    | [3]         | [4]                                    | [5]                                    | [6]  | [7]         | [8]                                    | [9]                                  | [10]        |
| 1964             | 0                        | 0                      | 0           | 0                                      | 0                                      | 0  | 0           | 0                                      | 0                                    | 0           |
| 1965             | 0                        | 0                      | 0           | 0                                      | 0                                      | 0  | 0           | 0                                      | 0                                    | 0           |
| 1966             | 0                        | 0                      | 0           | 0                                      | 0                                      | 0  | 0           | 0                                      | 0                                    | 0           |
| 1967             | 0                        | 0                      | 0           | 14,000                                 | 50,050                                 | 177,100                                    | 241,150     | 0                                      | 0                                    | 0           |
| 1968             | 0                        | 0                      | 0           | 19,156                                 | 29,701                                 | 193,245                                    | 242,102     | 0                                      | 0                                    | 0           |
| 1969             | 0                        | 0                      | 0           | 30,324                                 | 44,096                                 | 215,483                                    | 289,903     | 0                                      | 0                                    | 0           |
| 1970             | 0                        | 0                      | 0           | 80,908                                 | 107,730                                | 585,200                                    | 773,838     | 0                                      | 0                                    | 0           |
| 1971             | 0                        | 0                      | 0           | 57,320                                 | 123,080                                | 637,120                                    | 817,520     | 0                                      | 0                                    | 0           |
| 1972             | 0                        | 0                      | 0           | 99,668                                 | 143,877                                | 707,328                                    | 950,873     | 0                                      | 0                                    | 0           |
| 1973             | 0                        | 0                      | 0           | 120,880                                | 167,099                                | 782,167                                    | 1,070,146   | 0                                      | 0                                    | 0           |
| 1974             | 0                        | 0                      | 0           | 137,684                                | 182,339                                | 818,664                                    | 1,138,687   | 0                                      | 0                                    | 0           |
| 1975             | 0                        | 0                      | 0           | 146,204                                | 187,324                                | 804,123                                    | 1,137,651   | 0                                      | 0                                    | 0           |
| 1976             | 0                        | 0                      | 0           | 168,489                                | 208,652                                | 862,036                                    | 1,239,177   | 0                                      | 0                                    | 0           |
| 1977             | 0                        | 0                      | 0           | 172,931                                | 208,645                                | 827,062                                    | 1,208,638   | 0                                      | 0                                    | 0           |
| 1978             | 0                        | 0                      | 0           | 206,378                                | 243,231                                | 926,594                                    | 1,376,203   | 0                                      | 0                                    | 0           |
| 1979             | 0                        | 0                      | 0           | 237,771                                | 273,208                                | 1,005,955                                  | 1,516,934   | 0                                      | 0                                    | 0           |
| 1980             | 0                        | 18,325                 | 18,325      | 272,717                                | 307,426                                | 1,090,867                                  | 1,671,010   | 12,396                                 | 3,479                                | 15,875      |
| 1981             | 0                        | 25,440                 | 25,440      | 415,564                                | 469,768                                | 1,589,984                                  | 2,475,316   | 18,068                                 | 10,414                               | 28,482      |
| 1982             | 0                        | 34,917                 | 34,917      | 457,988                                | 519,053                                | 1,679,289                                  | 2,656,330   | 38,166                                 | 99,788                               | 137,954     |
| 1983             | 0                        | 12,035                 | 12,035      | 316,703                                | 359,775                                | 1,114,795                                  | 1,791,273   | 38,004                                 | 68,902                               | 106,906     |
| 1984             | 0                        | 22,453                 | 22,453      | 334,587                                | 380,914                                | 1,123,448                                  | 1,847,949   | 57,909                                 | 105,498                              | 163,407     |
| 1985             | 0                        | 22,001                 | 22,001      | 381,970                                | 435,728                                | 1,244,939                                  | 2,062,637   | 106,103                                | 192,937                              | 299,040     |
| 1986             | 35,358                   | 21,767                 | 57,125      | 423,378                                | 485,372                                | 1,330,615                                  | 2,239,365   | 151,206                                | 275,347                              | 426,553     |
| 1987             | 0                        | 22,984                 | 22,984      | 430,024                                | 493,786                                | 1,304,900                                  | 2,228,710   | 185,355                                | 336,664                              | 522,019     |
| 1988             | 88,878                   | 150,466                | 239,344     | 464,114                                | 533,731                                | 1,361,400                                  | 2,359,245   | 239,792                                | 436,607                              | 676,399     |
| 1989             | 102,688                  | 305,328                | 408,016     | 513,853                                | 591,760                                | 1,491,833                                  | 2,597,446   | 331,518                                | 602,402                              | 933,920     |
| 1990             | 112,723                  | 355,132                | 467,855     | 534,787                                | 616,676                                | 1,537,512                                  | 2,688,975   | 417,802                                | 760,166                              | 1,177,968   |
| 1991             | 129,296                  | 395,515                | 524,811     | 603,028                                | 681,067                                | 1,667,194                                  | 2,951,289   | 443,403                                | 806,745                              | 1,250,148   |
| 1992             | 158,879                  | 489,808                | 648,687     | 729,545                                | 808,579                                | 1,945,453                                  | 3,483,577   | 506,628                                | 921,780                              | 1,428,408   |
| 1993             | 172,457                  | 530,778                | 703,235     | 771,894                                | 840,958                                | 1,990,673                                  | 3,603,525   | 507,825                                | 923,957                              | 1,431,782   |
| 1994             | 177,824                  | 546,610                | 724,434     | 778,647                                | 817,579                                | 1,946,615                                  | 3,542,841   | 486,654                                | 885,437                              | 1,372,091   |
| 1995             | 203,738                  | 713,497                | 917,235     | 874,946                                | 874,946                                | 2,083,205                                  | 3,833,097   | 520,801                                | 947,567                              | 1,468,368   |
| 1996             | 213,506                  | 774,152                | 987,658     | 901,129                                | 860,168                                | 2,048,020                                  | 3,809,317   | 512,005                                | 931,562                              | 1,443,567   |
| 1997             | 250,558                  | 866,141                | 1,116,699   | 1,041,633                              | 951,056                                | 2,264,420                                  | 4,257,109   | 566,105                                | 1,029,994                            | 1,596,099   |
| 1998             | 266,952                  | 882,469                | 1,149,421   | 1,048,658                              | 957,470                                | 2,279,691                                  | 4,285,819   | 141,683                                | 888,760                              | 1,030,443   |
| 1999             | 290,688                  | 923,459                | 1,214,147   | 1,084,480                              | 990,178                                | 2,357,566                                  | 4,432,224   | 589,391                                | 1,072,362                            | 1,661,753   |
| 2000             | 390,936                  | 948,784                | 1,339,720   | 1,628,402                              | 1,005,778                              | 2,394,709                                  | 5,028,889   | 598,677                                | 1,089,257                            | 1,687,934   |
| 2001             | 496,412                  | 1,097,880              | 1,594,292   | 1,868,283                              | 1,005,998                              | 2,395,234                                  | 5,269,515   | 598,809                                | 1,089,496                            | 1,688,305   |
| 2002             | 512,928                  | 1,125,429              | 1,638,357   | 1,896,134                              | 1,020,996                              | 2,430,942                                  | 5,348,072   | 607,736                                | 1,105,738                            | 1,713,474   |
| 2003             | 511,059                  | 1,112,692              | 1,623,751   | 1,856,232                              | 999,510                                | 2,379,785                                  | 5,235,527   | 594,946                                | 1,082,469                            | 1,677,415   |
| 2004             | 569,615                  | 1,230,627              | 1,800,242   | 2,033,406                              | 1,094,911                              | 2,606,931                                  | 5,735,248   | 651,732                                | 1,185,788                            | 1,837,520   |
| 2005             | 573,729                  | 1,219,893              | 1,793,622   | 2,081,144                              | 1,084,212                              | 2,581,456                                  | 5,746,812   | 645,364                                | 1,174,201                            | 1,819,565   |
| 2006             | 606,343                  | 1,272,001              | 1,878,344   | 2,167,748                              | 1,129,330                              | 2,688,880                                  | 5,985,958   | 672,220                                | 1,223,064                            | 1,895,284   |
| 2007             | 623,728                  | 1,291,247              | 1,914,975   | 2,198,222                              | 1,145,206                              | 2,726,679                                  | 6,070,107   | 681,671                                | 1,240,257                            | 1,921,928   |
| 2008             | 647,091                  | 1,322,240              | 1,969,331   | 2,248,610                              | 1,171,457                              | 2,789,182                                  | 6,209,249   | 697,295                                | 1,268,688                            | 1,965,983   |
| 2009             | 717,087                  | 1,446,549              | 2,163,636   | 2,457,420                              | 1,280,240                              | 3,048,190                                  | 6,785,850   | 762,047                                | 1,386,499                            | 2,148,546   |
| 2010             | 1,105,529                | 1,809,450              | 2,914,979   | 3,070,686                              | 1,599,732                              | 3,808,886                                  | 8,479,304   | 952,222                                | 1,732,510                            | 2,684,732   |
| 2011             | 1,216,921                | 1,993,865              | 3,210,786   | 3,380,086                              | 1,760,920                              | 4,192,667                                  | 9,333,673   | 1,048,166                              | 1,907,076                            | 2,955,242   |
| 2012             | 1,270,523                | 2,083,876              | 3,354,399   | 3,528,968                              | 1,838,483                              | 4,377,339                                  | 9,744,790   | 1,094,335                              | 1,991,077                            | 3,085,412   |
| 2013             | 1,344,704                | 2,207,862              | 3,552,566   | 3,735,010                              | 1,945,825                              | 4,632,915                                  | 10,313,750  | 1,158,229                              | 2,107,328                            | 3,265,557   |
| 2014             | 1,276,099                | 2,097,420              | 3,373,519   | 3,544,457                              | 1,846,552                              | 4,396,552                                  | 9,787,561   | 1,099,138                              | 1,999,815                            | 3,098,953   |
| 2015             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2016             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2017             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2018             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2019             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2020             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2021             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2022             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2023             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2024             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2025             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2026             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2027             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2028             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2029             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2030             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2031             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2032             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2033             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2034             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| 2035             | 1,560,082                | 2,566,866              | 4,126,948   | 4,333,239                              | 2,257,484                              | 5,374,960                                  | 11,965,683  | 1,343,740                              | 2,444,855                            | 3,788,595   |
| TOTAL            | 46,827,971               | 83,277,278             | 130,105,249 | 142,564,185                            | 82,281,336                             | 202,328,003                                | 427,173,524 | 45,951,941                             | 84,225,586                           | 130,177,527 |

**TABLE B-21 Total Delta Water Charge for Each Contractor**

(in dollars)

Sheet 2 of 4

| Calendar<br>Year | SAN JOAQUIN VALLEY AREA              |   |   |                                |                   |                       |                               |   |               | Total<br>[19] |  |
|------------------|--------------------------------------|---|---|--------------------------------|-------------------|-----------------------|-------------------------------|---|---------------|---------------|--|
|                  | Dudley<br>Ridge<br>Water<br>District | Empire<br>West Side<br>Irrigation<br>District | Future<br>Contractor<br>San Joaquin<br>Valley | Kern County Water Agency       |                   | County<br>of<br>Kings | Oak Flat<br>Water<br>District | Tulare<br>Lake Basin<br>Water Storage<br>District |               |               |  |
|                  |                                      |   |   | Municipal<br>and<br>Industrial | Agri-<br>cultural |                       |                               |   |               |               |  |
|                  | [11]                                 | [12]  | [13]  | [14]                           | [15]              | [16]                  | [17]                          | [18]  | [19]          |               |  |
| 1964             | 0                                    | 0   | 0   | 0                              | 0                 | 0                     | 0                             | 0   | 0             | 0             |  |
| 1965             | 0                                    | 0   | 0   | 0                              | 0                 | 0                     | 0                             | 0   | 0             | 0             |  |
| 1966             | 0                                    | 0   | 0   | 0                              | 0                 | 0                     | 0                             | 0   | 0             | 0             |  |
| 1967             | 0                                    | 0   | 0   | 0                              | 0                 | 0                     | 0                             | 0   | 0             | 0             |  |
| 1968             | 40,695                               | 10,469  | 0   | 0                              | 165,522           | 3,177                 | 8,073                         | 98,608  | 326,544       |               |  |
| 1969             | 61,267                               | 3,281   | 0   | 0                              | 337,686           | 4,200                 | 8,805                         | 102,478   | 517,717       |               |  |
| 1970             | 104,405                              | 19,950  | 0   | 0                              | 964,915           | 8,645                 | 17,290                        | 228,095   | 1,343,300     |               |  |
| 1971             | 129,596                              | 21,720  | 0   | 0                              | 1,377,772         | 9,412                 | 20,272                        | 264,260   | 1,823,032     |               |  |
| 1972             | 160,756                              | 24,113  | 0   | 0                              | 2,175,835         | 11,253                | 43,131                        | 905,057   | 3,320,145     |               |  |
| 1973             | 195,541                              | 26,664  | 0   | 386,638                        | 2,373,167         | 13,333                | 27,553                        | 373,307   | 3,396,203     |               |  |
| 1974             | 224,202                              | 27,909  | 0   | 446,545                        | 2,781,595         | 13,954                | 29,770                        | 445,138   | 3,969,113     |               |  |
| 1975             | 329,688                              | 27,413  | 0   | 481,560                        | 3,041,048         | 14,620                | 33,702                        | 827,591   | 4,755,622     |               |  |
| 1976             | 414,245                              | 29,388  | 0   | 549,549                        | 3,931,785         | 15,673                | 35,966                        | 877,151   | 5,853,757     |               |  |
| 1977             | 312,532                              | 28,195  | 0   | 569,545                        | 4,071,218         | 15,977                | 40,289                        | 626,210   | 5,663,966     |               |  |
| 1978             | 342,208                              | 31,588  | 0   | 674,939                        | 4,950,959         | 20,006                | 41,065                        | 666,516   | 6,727,281     |               |  |
| 1979             | 395,523                              | 34,294  | 0   | 772,757                        | 5,901,986         | 22,863                | 45,725                        | 771,613   | 7,944,761     |               |  |
| 1980             | 555,341                              | 37,679  | 0   | 881,371                        | 6,984,026         | 27,272                | 70,658                        | 933,481   | 9,489,828     |               |  |
| 1981             | 740,789                              | 54,204  | 0   | 1,351,487                      | 11,140,730        | 41,556                | 77,692                        | 1,373,168   | 14,779,626    |               |  |
| 1982             | 782,396                              | 57,248  | 0   | 1,518,993                      | 12,703,436        | 47,707                | 85,873                        | 1,530,443   | 16,726,096    |               |  |
| 1983             | 543,462                              | 38,004  | 0   | 1,057,789                      | 9,141,315         | 35,471                | 58,273                        | 78,506  | 10,952,820    |               |  |
| 1984             | 580,379                              | 13,572  | 0   | 1,333,200                      | 9,741,623         | 39,893                | 61,770                        | 756,132   | 12,526,569    |               |  |
| 1985             | 667,740                              | 42,441  | 0   | 1,540,611                      | 11,403,920        | 48,100                | 69,320                        | 644,383   | 14,416,515    |               |  |
| 1986             | 745,447                              | 45,362  | 0   | 1,714,679                      | 12,925,113        | 55,946                | 77,115                        | 1,469,725   | 17,033,387    |               |  |
| 1987             | 762,180                              | 44,485  | 0   | 1,766,065                      | 13,410,817        | 59,314                | 77,108                        | 1,503,601   | 17,623,570    |               |  |
| 1988             | 827,669                              | 46,411  | 0   | 1,916,790                      | 14,707,763        | 61,882                | 83,540                        | 1,633,680   | 19,277,735    |               |  |
| 1989             | 921,621                              | 49,728  | 0   | 2,125,033                      | 16,312,361        | 66,304                | 92,825                        | 1,821,693   | 21,399,565    |               |  |
| 1990             | 964,288                              | 50,136  | 0   | 1,998,766                      | 17,276,959        | 66,848                | 95,259                        | 1,980,383   | 22,432,639    |               |  |
| 1991             | 1,023,374                            | 53,208  | 0   | 2,121,239                      | 18,335,590        | 70,944                | 101,096                       | 2,101,729   | 23,807,180    |               |  |
| 1992             | 1,169,299                            | 60,795  | 0   | 2,727,688                      | 20,646,125        | 81,061                | 115,511                       | 2,401,419   | 27,201,898    |               |  |
| 1993             | 1,172,060                            | 60,939  | 0   | 2,734,129                      | 20,694,874        | 81,252                | 115,784                       | 2,407,089   | 27,266,127    |               |  |
| 1994             | 1,123,198                            | 58,398  | 0   | 2,156,809                      | 20,295,455        | 77,865                | 110,957                       | 2,306,739   | 26,129,421    |               |  |
| 1995             | 1,202,009                            | 62,497  | 0   | 2,803,995                      | 21,223,694        | 83,328                | 118,743                       | 2,468,598   | 27,982,864    |               |  |
| 1996             | 534,818                              | 69,191  | 0   | 2,756,635                      | 19,492,814        | 81,921                | 102,219                       | 2,426,904   | 25,464,502    |               |  |
| 1997             | 1,208,521                            | 67,162  | 0   | 3,047,908                      | 22,148,973        | 90,576                | 129,072                       | 2,683,338   | 29,375,550    |               |  |
| 1998             | 1,216,671                            | 77,807  | 0   | 2,726,511                      | 22,070,376        | 91,188                | 129,942                       | 2,820,148   | 29,132,643    |               |  |
| 1999             | 1,258,233                            | 69,974  | 0   | 2,819,648                      | 22,824,299        | 94,303                | 134,381                       | 2,793,715   | 29,994,553    |               |  |
| 2000             | 1,278,056                            | 70,943  | 0   | 3,223,279                      | 21,220,235        | 95,788                | 136,498                       | 2,837,730   | 28,862,529    |               |  |
| 2001             | 1,278,336                            | 71,058  | 0   | 2,864,700                      | 21,110,372        | 95,809                | 136,528                       | 2,838,352   | 28,395,155    |               |  |
| 2002             | 1,393,975                            | 72,121  | 0   | 3,272,056                      | 21,060,431        | 97,237                | 138,564                       | 2,711,156   | 28,745,540    |               |  |
| 2003             | 1,364,640                            | 70,550  | 0   | 3,203,191                      | 20,617,243        | 95,192                | 135,648                       | 2,654,103   | 28,140,567    |               |  |
| 2004             | 1,494,892                            | 77,810  | 0   | 3,508,929                      | 22,585,122        | 104,277               | 148,595                       | 2,897,005   | 30,816,630    |               |  |
| 2005             | 1,480,284                            | 77,153  | 0   | 3,474,640                      | 22,307,136        | 232,331               | 147,143                       | 2,739,621   | 30,458,308    |               |  |
| 2006             | 1,541,884                            | 80,380  | 0   | 3,619,232                      | 23,235,418        | 242,000               | 153,266                       | 2,587,428   | 31,459,608    |               |  |
| 2007             | 1,563,559                            | 81,479  | 0   | 3,670,110                      | 23,562,051        | 253,717               | 155,421                       | 2,615,486   | 31,901,823    |               |  |
| 2008             | 1,599,401                            | 83,191  | 0   | 3,754,239                      | 24,102,160        | 259,533               | 158,984                       | 2,675,439   | 32,632,947    |               |  |
| 2009             | 1,747,923                            | 90,846  | 0   | 4,102,863                      | 26,340,321        | 283,634               | 173,747                       | 2,923,885   | 35,663,219    |               |  |
| 2010             | 1,917,507                            | 113,466                                       | 0   | 5,126,760                      | 32,304,300        | 354,417               | 217,107                       | 3,386,937   | 43,420,494    |               |  |
| 2011             | 2,110,714                            | 123,965                                       | 0   | 5,643,329                      | 35,559,263        | 390,127               | 238,982                       | 3,728,203   | 47,794,583    |               |  |
| 2012             | 2,203,684                            | 129,358                                       | 0   | 5,881,899                      | 37,125,531        | 407,312               | 249,508                       | 3,892,417   | 49,899,709    |               |  |
| 2013             | 2,332,348                            | 136,898                                       | 0   | 6,235,904                      | 39,293,142        | 431,093               | 264,076                       | 4,119,681   | 52,813,142    |               |  |
| 2014             | 2,125,733                            | 129,639                                       | 0   | 5,917,760                      | 37,288,481        | 409,099               | 250,603                       | 3,845,708   | 49,967,023    |               |  |
| 2015             | 2,437,545                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,925,575    |               |  |
| 2016             | 2,437,545                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,925,575    |               |  |
| 2017             | 2,437,545                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,925,575    |               |  |
| 2018             | 2,437,545                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,925,575    |               |  |
| 2019             | 2,437,545                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,925,575    |               |  |
| 2020             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2021             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2022             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2023             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2024             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2025             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2026             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2027             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2028             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2029             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2030             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2031             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2032             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2033             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2034             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| 2035             | 2,222,546                            | 158,639                                       | 0   | 7,234,697                      | 45,586,650        | 500,140               | 306,372                       | 4,701,532   | 60,710,576    |               |  |
| TOTAL            | 93,891,550                           | 6,084,501                                     | 0   | 260,418,407                    | 1,720,584,607     | 15,710,350            | 11,397,261                    | 187,506,221                                       | 2,295,592,897 |               |  |

**TABLE B-21 Total Delta Water Charge for Each Contractor**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                       |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|---------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline-Lake Arrowhead Water Agency | Desert Water Agency | Little Rock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [20]                                   | [21]                      | [22]                            | [23]                                  | [24]                | [25]                                  | [26]                | [27]                    | [28]   | [29]  |
| 1964          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1965          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1966          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1967          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1968          | 0                                      | 13,060                    | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1969          | 0                                      | 17,804                    | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1970          | 0                                      | 37,905                    | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1971          | 0                                      | 48,508                    | 0                               | 0                                     | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1972          | 160,756                                | 74,751                    | 41,797                          | 4,662                                 | 64,303              | 1,367                                 | 67,518              | 13,021                  | 369,739  | 85,202                                      |
| 1973          | 222,207                                | 107,163                   | 51,552                          | 7,279                                 | 79,994              | 2,577                                 | 95,104              | 26,131                  | 54,908   | 14,338                                      |
| 1974          | 279,090                                | 143,266                   | 59,539                          | 10,791                                | 93,030              | 3,721                                 | 121,869             | 39,631                  | 465,150  | 114,427                                     |
| 1975          | 319,822                                | 166,307                   | 63,964                          | 13,250                                | 100,515             | 4,752                                 | 140,722             | 50,989                  | 479,733  | 119,705                                     |
| 1976          | 431,018                                | 207,673                   | 74,449                          | 17,045                                | 117,550             | 6,269                                 | 174,366             | 67,591                  | 538,772  | 137,142                                     |
| 1977          | 469,922                                | 226,502                   | 79,144                          | 19,079                                | 122,180             | 6,861                                 | 189,848             | 77,255                  | 540,410  | 139,097                                     |
| 1978          | 600,180                                | 274,819                   | 97,313                          | 24,428                                | 147,413             | 9,687                                 | 236,913             | 98,345                  | 631,768  | 165,313                                     |
| 1979          | 720,173                                | 320,077                   | 115,033                         | 29,836                                | 171,470             | 11,889                                | 284,640             | 117,285                 | 714,457  | 189,760                                     |
| 1980          | 887,818                                | 376,845                   | 134,920                         | 35,949                                | 210,736             | 14,256                                | 337,177             | 138,590                 | 811,952  | 215,694                                     |
| 1981          | 1,355,100                              | 592,631                   | 218,713                         | 57,637                                | 343,292             | 22,946                                | 534,813             | 211,396                 | 1,237,658                                      | 330,644                                     |
| 1982          | 1,551,434                              | 664,082                   | 254,298                         | 66,408                                | 400,739             | 26,335                                | 313,057             | 235,100                 | 1,341,923                                      | 364,482                                     |
| 1983          | 1,110,994                              | 472,521                   | 184,283                         | 47,759                                | 291,367             | 19,002                                | 434,517             | 163,925                 | 943,775  | 252,096                                     |
| 1984          | 450,405                                | 509,602                   | 202,914                         | 52,247                                | 321,718             | 20,719                                | 472,282             | 174,500                 | 1,003,760                                      | 266,383                                     |
| 1985          | 565,881                                | 591,346                   | 240,344                         | 61,540                                | 381,970             | 24,474                                | 551,734             | 200,605                 | 1,152,983                                      | 308,405                                     |
| 1986          | 635,066                                | 659,259                   | 275,347                         | 70,160                                | 438,498             | 27,822                                | 625,994             | 223,785                 | 1,285,253                                      | 350,799                                     |
| 1987          | 652,450                                | 676,176                   | 288,131                         | 73,104                                | 467,095             | 29,064                                | 648,002             | 228,654                 | 1,319,729                                      | 364,779                                     |
| 1988          | 711,641                                | 742,582                   | 319,496                         | 80,756                                | 525,996             | 32,024                                | 711,641             | 248,146                 | 1,438,752                                      | 402,232                                     |
| 1989          | 2,083,593                              | 830,453                   | 362,565                         | 91,333                                | 605,021             | 36,301                                | 803,932             | 276,155                 | 1,607,864                                      | 454,180                                     |
| 1990          | 2,207,667                              | 869,029                   | 386,049                         | 96,930                                | 636,731             | 38,438                                | 848,974             | 289,119                 | 1,696,277                                      | 481,308                                     |
| 1991          | 2,454,678                              | 961,298                   | 409,704                         | 102,869                               | 675,746             | 40,793                                | 900,994             | 308,835                 | 1,819,725                                      | 510,800                                     |
| 1992          | 2,804,695                              | 1,098,371                 | 468,125                         | 117,538                               | 772,102             | 46,610                                | 1,029,469           | 350,587                 | 2,079,203                                      | 583,636                                     |
| 1993          | 2,811,318                              | 1,100,964                 | 469,230                         | 117,815                               | 773,925             | 46,720                                | 1,031,900           | 351,415                 | 2,084,113                                      | 585,014                                     |
| 1994          | 2,694,116                              | 1,055,065                 | 449,668                         | 112,905                               | 741,661             | 44,772                                | 988,880             | 336,766                 | 1,997,227                                      | 560,625                                     |
| 1995          | 2,883,156                              | 1,129,097                 | 481,220                         | 120,826                               | 793,702             | 47,914                                | 1,058,269           | 360,394                 | 2,137,369                                      | 599,963                                     |
| 1996          | 2,834,460                              | 1,110,027                 | 473,093                         | 118,785                               | 780,296             | 47,104                                | 1,040,394           | 354,307                 | 2,101,269                                      | 589,830                                     |
| 1997          | 3,133,957                              | 1,227,316                 | 523,081                         | 131,336                               | 862,744             | 52,082                                | 1,150,325           | 391,745                 | 2,323,295                                      | 652,153                                     |
| 1998          | 3,155,093                              | 1,235,593                 | 526,609                         | 132,222                               | 868,562             | 52,433                                | 1,728,006           | 394,387                 | 2,338,963                                      | 656,551                                     |
| 1999          | 3,262,870                              | 1,277,800                 | 544,598                         | 136,739                               | 898,233             | 54,224                                | 1,787,034           | 407,859                 | 2,418,863                                      | 678,979                                     |
| 2000          | 3,314,278                              | 2,279,763                 | 553,178                         | 138,893                               | 912,384             | 55,078                                | 1,815,190           | 510,073                 | 2,456,972                                      | 689,676                                     |
| 2001          | 3,315,004                              | 2,280,263                 | 553,299                         | 138,924                               | 912,584             | 55,090                                | 1,815,587           | 510,185                 | 2,457,510                                      | 689,827                                     |
| 2002          | 3,437,351                              | 2,314,256                 | 561,548                         | 140,995                               | 926,188             | 55,912                                | 1,842,654           | 517,791                 | 2,494,146                                      | 700,112                                     |
| 2003          | 3,365,016                              | 2,265,555                 | 549,731                         | 138,028                               | 906,698             | 54,735                                | 1,803,877           | 506,894                 | 2,441,659                                      | 685,379                                     |
| 2004          | 3,686,201                              | 2,481,798                 | 602,201                         | 151,202                               | 993,241             | 59,960                                | 1,976,053           | 555,277                 | 2,674,711                                      | 750,797                                     |
| 2005          | 3,650,179                              | 2,457,547                 | 596,316                         | 149,725                               | 983,535             | 59,374                                | 1,956,744           | 549,850                 | 2,648,574                                      | 743,459                                     |
| 2006          | 3,802,076                              | 2,559,814                 | 3,256,234                       | 155,955                               | 1,344,440           | 61,844                                | 2,038,171           | 572,732                 | 2,758,791                                      | 774,397                                     |
| 2007          | 3,855,524                              | 2,595,798                 | 3,302,008                       | 158,148                               | 1,363,339           | 62,714                                | 2,066,822           | 580,783                 | 2,797,573                                      | 785,284                                     |
| 2008          | 3,943,904                              | 2,655,301                 | 3,377,700                       | 161,772                               | 1,394,591           | 64,151                                | 2,114,200           | 594,096                 | 2,861,701                                      | 803,284                                     |
| 2009          | 4,310,140                              | 2,901,877                 | 3,691,358                       | 176,795                               | 1,524,095           | 70,109                                | 2,310,528           | 649,264                 | 3,127,443                                      | 877,878                                     |
| 2010          | 5,385,764                              | 3,626,059                 | 5,269,593                       | 220,916                               | 2,123,453           | 87,605                                | 3,153,757           | 811,293                 | 3,907,916                                      | 1,096,959                                   |
| 2011          | 5,928,431                              | 3,991,418                 | 5,800,554                       | 243,174                               | 2,337,412           | 96,432                                | 3,471,528           | 893,038                 | 4,301,676                                      | 1,207,488                                   |
| 2012          | 6,189,558                              | 4,167,227                 | 6,056,050                       | 253,886                               | 2,440,367           | 100,679                               | 3,624,437           | 932,373                 | 4,491,150                                      | 1,260,674                                   |
| 2013          | 6,550,942                              | 4,410,535                 | 6,409,638                       | 268,709                               | 2,582,850           | 106,557                               | 3,836,054           | 986,811                 | 4,753,371                                      | 1,334,279                                   |
| 2014          | 6,368,143                              | 4,185,518                 | 6,082,630                       | 255,000                               | 2,451,078           | 101,120                               | 3,640,346           | 936,466                 | 4,510,863                                      | 1,266,208                                   |
| 2015          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,611,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2016          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,611,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2017          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,611,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2018          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,611,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2019          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,611,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2020          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2021          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2022          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2023          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2024          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2025          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2026          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2027          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2028          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2029          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2030          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2031          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2032          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2033          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2034          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| 2035          | 7,785,307                              | 5,116,962                 | 7,436,258                       | 311,747                               | 2,996,541           | 123,624                               | 4,826,715           | 1,144,866               | 5,514,710                                      | 1,547,989                                   |
| <b>TOTAL</b>  | 272,013,518                            | 171,446,823               | 210,618,635                     | 11,250,037                            | 98,810,205          | 4,458,620                             | 156,060,337         | 40,283,630              | 201,427,856                                    | 56,347,007                                  |

**TABLE B-21 Total Delta Water Charge for Each Contractor**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |                      | FEATHER RIVER AREA |                   |                      |                   | South Bay Area Future Contractor | GRAND TOTAL          |
|---------------|--------------------------------------|--|--|----------------------|--------------------|-------------------|----------------------|-------------------|----------------------------------|----------------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total                | City of Yuba City  | County of Butte   | Plumas County FC&WCD | Total             |                                  |                      |
|               | [30]                                 | [31]   | [32]   | [33]                 | [34]               | [35]              | [36]                 | [37]              | [38]                             | [39]                 |
| 1964          | 0                                    | 0  | 0  | 0                    | 0                  | 0                 | 0                    | 0                 | 0                                | 0                    |
| 1965          | 0                                    | 0  | 0  | 0                    | 0                  | 0                 | 0                    | 0                 | 0                                | 0                    |
| 1966          | 0                                    | 0  | 0  | 0                    | 0                  | 0                 | 0                    | 0                 | 0                                | 0                    |
| 1967          | 0                                    | 0  | 0  | 0                    | 0                  | 0                 | 0                    | 0                 | 0                                | 241,150              |
| 1968          | 0                                    | 0  | 0  | 13,060               | 0                  | 1,050             | 875                  | 1,925             | 0                                | 583,631              |
| 1969          | 0                                    | 0  | 0  | 17,804               | 0                  | 1,225             | 929                  | 2,154             | 0                                | 827,578              |
| 1970          | 0                                    | 0  | 0  | 37,905               | 0                  | 3,848             | 1,995                | 5,843             | 0                                | 2,160,886            |
| 1971          | 0                                    | 0  | 0  | 48,508               | 0                  | 4,546             | 3,186                | 7,732             | 0                                | 2,696,792            |
| 1972          | 0                                    | 2,043,211  | 0  | 2,926,327            | 0                  | 4,929             | 3,778                | 8,707             | 0                                | 7,206,052            |
| 1973          | 0                                    | 2,317,893  | 0  | 2,979,146            | 0                  | 7,059             | 4,444                | 11,503            | 0                                | 7,456,998            |
| 1974          | 0                                    | 4,231,933  | 0  | 5,562,447            | 0                  | 8,336             | 4,931                | 13,267            | 0                                | 10,683,514           |
| 1975          | 0                                    | 5,073,286  | 0  | 6,533,045            | 0                  | 9,416             | 5,117                | 14,533            | 0                                | 12,440,851           |
| 1976          | 0                                    | 6,422,167  | 0  | 8,194,042            | 0                  | 7,004             | 5,780                | 12,784            | 0                                | 15,299,760           |
| 1977          | 0                                    | 7,104,278  | 0  | 8,974,576            | 0                  | 16,917            | 5,827                | 22,744            | 0                                | 15,869,924           |
| 1978          | 0                                    | 9,016,389  | 0  | 11,302,568           | 0                  | 12,635            | 6,844                | 19,479            | 0                                | 19,425,531           |
| 1979          | 0                                    | 10,935,192   | 0  | 13,609,812           | 0                  | 16,575            | 7,773                | 24,348            | 0                                | 23,095,855           |
| 1980          | 84,294                               | 13,102,796   | 12,396                                       | 16,333,423           | 0                  | 19,834            | 8,801                | 28,635            | 0                                | 27,557,096           |
| 1981          | 140,930                              | 20,910,099   | 36,136                                       | 25,991,995           | 0                  | 21,682            | 13,370               | 35,052            | 0                                | 43,335,911           |
| 1982          | 167,929                              | 23,998,560   | 57,248                                       | 29,441,595           | 0                  | 16,117            | 14,694               | 30,811            | 0                                | 49,027,703           |
| 1983          | 124,148                              | 17,203,307   | 50,672                                       | 21,298,366           | 0                  | 15,202            | 10,134               | 25,336            | 0                                | 34,186,736           |
| 1984          | 138,982                              | 18,766,458   | 64,344                                       | 22,444,314           | 20,590             | 15,442            | 10,681               | 46,713            | 0                                | 37,051,405           |
| 1985          | 166,935                              | 22,050,974   | 84,882                                       | 26,382,073           | 24,050             | 16,976            | 12,166               | 53,192            | 0                                | 43,235,458           |
| 1986          | 195,056                              | 25,089,658   | 120,965                                      | 29,997,662           | 31,753             | 18,145            | 13,457               | 63,355            | 0                                | 49,817,447           |
| 1987          | 207,598                              | 26,095,043   | 148,284                                      | 31,198,109           | 37,071             | 17,794            | 13,642               | 68,507            | 0                                | 51,663,899           |
| 1988          | 233,604                              | 28,781,238   | 201,116                                      | 34,429,224           | 46,722             | 18,565            | 14,852               | 80,139            | 0                                | 57,062,086           |
| 1989          | 268,530                              | 32,505,376   | 265,215                                      | 40,190,518           | 61,184             | 19,891            | 16,576               | 97,651            | 0                                | 65,617,116           |
| 1990          | 289,119                              | 33,616,369   | 334,242                                      | 41,790,252           | 63,506             | 20,055            | 17,381               | 100,942           | 0                                | 68,658,631           |
| 1991          | 306,835                              | 35,676,185   | 354,722                                      | 44,521,184           | 170,267            | 21,283            | 19,155               | 210,705           | 0                                | 73,265,317           |
| 1992          | 350,587                              | 40,763,329   | 405,303                                      | 50,869,555           | 194,545            | 24,318            | 22,697               | 241,560           | 0                                | 83,873,685           |
| 1993          | 351,415                              | 40,859,579   | 406,260                                      | 50,989,668           | 195,005            | 24,376            | 23,563               | 242,944           | 0                                | 84,237,281           |
| 1994          | 336,766                              | 39,156,173   | 389,323                                      | 48,863,947           | 186,875            | 23,360            | 23,360               | 233,595           | 0                                | 80,866,329           |
| 1995          | 360,394                              | 41,903,674   | 416,641                                      | 52,292,619           | 199,987            | 24,999            | 26,040               | 251,026           | 0                                | 86,725,209           |
| 1996          | 0                                    | 41,195,923   | 409,604                                      | 51,055,092           | 196,610            | 24,576            | 26,624               | 247,810           | 0                                | 83,007,946           |
| 1997          | 0                                    | 45,548,810   | 447,746                                      | 56,444,590           | 214,918            | 27,173            | 30,223               | 272,314           | 0                                | 93,062,361           |
| 1998          | 0                                    | 45,855,992   | 450,529                                      | 57,394,940           | 107,459            | 27,356            | 31,537               | 166,352           | 0                                | 93,159,618           |
| 1999          | 47,152                               | 47,422,430   | 466,491                                      | 59,403,272           | 226,327            | 28,291            | 33,820               | 288,438           | 0                                | 96,994,387           |
| 2000          | 71,841                               | 48,169,576   | 478,942                                      | 61,445,844           | 229,892            | 69,207            | 35,708               | 334,807           | 0                                | 98,699,723           |
| 2001          | 95,809                               | 48,180,135   | 479,047                                      | 61,483,264           | 229,942            | 83,833            | 37,187               | 350,962           | 0                                | 98,781,493           |
| 2002          | 97,237                               | 48,898,394   | 486,188                                      | 62,472,772           | 233,371            | 85,083            | 39,185               | 357,639           | 0                                | 100,275,854          |
| 2003          | 118,989                              | 47,869,376   | 475,957                                      | 61,181,894           | 228,460            | 83,293            | 39,743               | 351,496           | 0                                | 98,210,650           |
| 2004          | 156,416                              | 52,438,419   | 521,386                                      | 67,047,662           | 250,266            | 92,048            | 0                    | 342,314           | 0                                | 107,579,616          |
| 2005          | 167,795                              | 51,925,988   | 516,291                                      | 66,405,377           | 247,820            | 717,290           | 0                    | 965,110           | 0                                | 107,188,794          |
| 2006          | 188,222                              | 51,397,939   | 537,776                                      | 69,448,391           | 258,133            | 32,606            | 8,699                | 299,438           | 0                                | 110,967,023          |
| 2007          | 204,501                              | 52,120,469   | 545,336                                      | 70,438,299           | 268,738            | 33,950            | 19,600               | 322,288           | 0                                | 112,569,420          |
| 2008          | 482,528                              | 53,315,217   | 557,837                                      | 72,326,282           | 274,736            | 794,765           | 56,138               | 1,125,659         | 0                                | 116,229,451          |
| 2009          | 527,337                              | 58,266,144   | 609,638                                      | 79,042,606           | 292,626            | 844,842           | 63,417               | 1,200,885         | 0                                | 127,004,742          |
| 2010          | 658,937                              | 72,806,845   | 761,778                                      | 99,910,875           | 365,653            | 1,054,033         | 81,825               | 1,501,511         | 0                                | 158,911,895          |
| 2011          | 725,331                              | 80,142,822   | 838,533                                      | 109,977,837          | 414,001            | 1,185,940         | 92,561               | 1,692,502         | 0                                | 174,964,623          |
| 2012          | 757,280                              | 83,672,846   | 875,468                                      | 114,821,995          | 424,826            | 1,216,951         | 100,037              | 1,741,814         | 0                                | 182,648,119          |
| 2013          | 801,494                              | 88,558,170   | 926,583                                      | 121,525,993          | 444,760            | 1,274,052         | 109,975              | 1,828,787         | 0                                | 193,299,795          |
| 2014          | 760,603                              | 84,040,101   | 879,310                                      | 115,477,386          | 431,273            | 1,235,416         | 108,033              | 1,774,722         | 0                                | 183,479,164          |
| 2015          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,336,944          | 515,997            | 1,478,114         | 137,487              | 2,131,598         | 0                                | 224,275,343          |
| 2016          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,336,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,631          |
| 2017          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,336,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,631          |
| 2018          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,336,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,631          |
| 2019          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,336,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,631          |
| 2020          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2021          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2022          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2023          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2024          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2025          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2026          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2027          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2028          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2029          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2030          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2031          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2032          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2033          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2034          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| 2035          | 929,868                              | 102,742,365  | 1,074,992                                    | 141,551,944          | 515,997            | 1,478,114         | 142,775              | 2,136,886         | 0                                | 224,280,632          |
| <b>TOTAL</b>  | <b>29,111,822</b>                    | <b>3,767,038,428</b>                                   | <b>37,187,021</b>                            | <b>5,056,053,939</b> | <b>17,407,303</b>  | <b>40,362,698</b> | <b>4,219,347</b>     | <b>61,989,348</b> | <b>0</b>                         | <b>8,101,092,484</b> |

**TABLE B-22 Water System Revenue Bond Surcharge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 1 of 4

| Calendar Year | NORTH BAY AREA     |                   |                   | SOUTH BAY AREA                |                               |                                   |                    | CENTRAL COASTAL AREA   |                      |                   |
|---------------|--------------------|-------------------|-------------------|-------------------------------|-------------------------------|-----------------------------------|--------------------|------------------------|----------------------|-------------------|
|               | Napa County FC&WCD | Solano County WA  | Total             | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total              | San Luis Obispo County | Santa Barbara County | Total             |
|               | [1]                | [2]               | [3]               | [4]                           | [5]                           | [6]                               | [7]                | [8]                    | [9]                  | [10]              |
| 1971          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1972          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1973          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1974          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1975          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1976          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1977          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1978          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1979          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1980          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1981          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1982          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1983          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1984          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1985          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1986          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1987          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                  | 0                      | 0                    | 0                 |
| 1988          | 29,131             | 40,505            | 69,636            | 25,436                        | 30,176                        | 100,035                           | 155,647            | 13,126                 | 24,392               | 37,518            |
| 1989          | 48,804             | 69,621            | 118,425           | 43,343                        | 51,681                        | 170,303                           | 265,327            | 26,828                 | 49,634               | 76,462            |
| 1990          | 41,166             | 60,482            | 101,648           | 38,407                        | 51,185                        | 149,440                           | 239,032            | 27,956                 | 51,795               | 79,751            |
| 1991          | 63,389             | 92,401            | 155,790           | 62,470                        | 81,991                        | 235,712                           | 380,173            | 44,887                 | 83,709               | 128,596           |
| 1992          | 84,320             | 126,227           | 210,547           | 89,247                        | 115,208                       | 325,629                           | 530,084            | 61,137                 | 113,925              | 175,062           |
| 1993          | 90,152             | 137,473           | 227,625           | 98,432                        | 125,174                       | 347,457                           | 571,063            | 67,725                 | 126,662              | 194,387           |
| 1994          | 91,785             | 141,222           | 233,007           | 102,021                       | 126,216                       | 352,415                           | 580,652            | 81,420                 | 159,156              | 240,576           |
| 1995          | 108,311            | 181,787           | 290,098           | 126,001                       | 149,377                       | 416,956                           | 692,334            | 131,675                | 270,726              | 402,401           |
| 1996          | 132,305            | 232,343           | 364,648           | 158,514                       | 180,787                       | 505,042                           | 844,343            | 242,654                | 534,449              | 777,103           |
| 1997          | 135,556            | 237,492           | 373,048           | 171,263                       | 187,162                       | 522,127                           | 880,552            | 141,810                | 846,617              | 988,427           |
| 1998          | 130,346            | 228,366           | 358,712           | 164,682                       | 179,971                       | 502,065                           | 846,718            | 136,361                | 814,087              | 950,448           |
| 1999          | 182,507            | 316,416           | 498,923           | 227,072                       | 248,031                       | 691,830                           | 1,166,933          | 188,835                | 1,124,110            | 1,312,945         |
| 2000          | 238,571            | 364,418           | 602,989           | 260,766                       | 284,875                       | 794,730                           | 1,340,371          | 218,359                | 1,364,019            | 1,582,378         |
| 2001          | 234,773            | 358,616           | 593,389           | 561,965                       | 280,341                       | 782,078                           | 1,624,384          | 214,883                | 1,342,304            | 1,557,187         |
| 2002          | 257,520            | 391,851           | 649,371           | 610,230                       | 288,977                       | 806,174                           | 1,705,381          | 221,503                | 1,383,661            | 1,605,164         |
| 2003          | 268,151            | 408,027           | 676,178           | 635,422                       | 300,907                       | 839,455                           | 1,775,784          | 230,647                | 1,440,782            | 1,671,429         |
| 2004          | 268,425            | 408,444           | 676,869           | 636,070                       | 301,214                       | 840,312                           | 1,777,596          | 230,883                | 1,442,252            | 1,673,135         |
| 2005          | 253,413            | 385,602           | 639,015           | 610,756                       | 284,369                       | 793,318                           | 1,688,443          | 217,970                | 1,361,594            | 1,579,564         |
| 2006          | 274,219            | 417,261           | 691,480           | 660,900                       | 307,716                       | 858,451                           | 1,827,067          | 235,866                | 1,473,385            | 1,709,251         |
| 2007          | 177,891            | 270,066           | 447,957           | 441,730                       | 197,505                       | 550,975                           | 1,190,210          | 152,478                | 975,872              | 1,128,350         |
| 2008          | 254,590            | 386,862           | 641,452           | 773,686                       | 288,283                       | 803,089                           | 1,865,058          | 223,659                | 1,369,892            | 1,593,551         |
| 2009          | 285,324            | 434,158           | 719,482           | 687,665                       | 320,178                       | 893,215                           | 1,901,058          | 245,418                | 1,533,052            | 1,778,470         |
| 2010          | 273,015            | 415,428           | 688,443           | 657,998                       | 306,365                       | 854,681                           | 1,819,044          | 234,831                | 1,466,914            | 1,701,745         |
| 2011          | 294,866            | 448,677           | 743,543           | 710,662                       | 330,884                       | 923,085                           | 1,964,631          | 253,625                | 1,584,318            | 1,837,943         |
| 2012          | 383,092            | 455,983           | 839,075           | 753,264                       | 330,355                       | 933,048                           | 2,016,667          | 229,311                | 1,456,050            | 1,685,361         |
| 2013          | 416,223            | 495,679           | 911,902           | 820,192                       | 360,039                       | 1,013,496                         | 2,193,727          | 249,613                | 1,583,700            | 1,833,313         |
| 2014          | 753,983            | 898,450           | 1,652,433         | 1,483,870                     | 650,495                       | 1,831,167                         | 3,965,532          | 450,891                | 2,858,402            | 3,309,293         |
| 2015          | 937,429            | 1,118,566         | 2,055,995         | 1,837,490                     | 808,146                       | 2,269,691                         | 4,915,327          | 560,305                | 3,533,322            | 4,093,627         |
| 2016          | 944,305            | 1,126,771         | 2,071,076         | 1,850,968                     | 814,074                       | 2,286,340                         | 4,951,382          | 564,415                | 3,559,240            | 4,123,655         |
| 2017          | 933,293            | 1,113,631         | 2,046,924         | 1,829,383                     | 804,580                       | 2,259,677                         | 4,893,640          | 557,833                | 3,517,732            | 4,075,565         |
| 2018          | 847,063            | 1,010,739         | 1,857,802         | 1,660,361                     | 730,243                       | 2,050,899                         | 4,441,503          | 506,293                | 3,192,719            | 3,699,012         |
| 2019          | 890,849            | 1,062,985         | 1,953,834         | 1,746,186                     | 767,990                       | 2,156,911                         | 4,671,087          | 532,464                | 3,357,753            | 3,890,217         |
| 2020          | 843,192            | 1,006,120         | 1,849,312         | 1,652,773                     | 726,906                       | 2,041,526                         | 4,421,205          | 503,979                | 3,178,128            | 3,682,107         |
| 2021          | 841,154            | 1,003,688         | 1,844,842         | 1,648,778                     | 725,149                       | 2,036,591                         | 4,410,518          | 502,761                | 3,170,446            | 3,673,207         |
| 2022          | 812,280            | 969,235           | 1,781,515         | 1,592,181                     | 700,257                       | 1,966,682                         | 4,259,120          | 485,503                | 3,061,616            | 3,547,119         |
| 2023          | 819,151            | 977,433           | 1,796,584         | 1,605,648                     | 706,180                       | 1,983,317                         | 4,295,145          | 489,610                | 3,087,512            | 3,577,122         |
| 2024          | 797,643            | 951,770           | 1,749,413         | 1,563,491                     | 687,638                       | 1,931,243                         | 4,182,372          | 476,754                | 3,006,447            | 3,483,201         |
| 2025          | 737,377            | 879,859           | 1,617,236         | 1,445,361                     | 635,684                       | 1,785,328                         | 3,866,373          | 440,733                | 2,779,294            | 3,220,027         |
| 2026          | 695,319            | 829,674           | 1,524,993         | 1,362,921                     | 599,426                       | 1,683,498                         | 3,645,845          | 415,595                | 2,620,771            | 3,036,366         |
| 2027          | 750,256            | 895,226           | 1,645,482         | 1,470,605                     | 646,786                       | 1,816,510                         | 3,933,901          | 448,431                | 2,827,836            | 3,276,267         |
| 2028          | 608,832            | 726,475           | 1,335,307         | 1,193,394                     | 524,866                       | 1,474,095                         | 3,192,355          | 363,901                | 2,294,785            | 2,658,686         |
| 2029          | 651,139            | 776,956           | 1,428,095         | 1,276,321                     | 561,339                       | 1,576,528                         | 3,414,188          | 389,188                | 2,454,247            | 2,843,435         |
| 2030          | 127,621            | 152,281           | 279,902           | 250,154                       | 110,020                       | 308,994                           | 669,168            | 76,279                 | 481,024              | 557,303           |
| 2031          | 127,669            | 152,338           | 280,007           | 250,249                       | 110,062                       | 309,111                           | 669,422            | 76,308                 | 481,206              | 557,514           |
| 2032          | 127,683            | 152,355           | 280,038           | 250,276                       | 110,074                       | 309,144                           | 669,494            | 76,317                 | 481,258              | 557,575           |
| 2033          | 127,725            | 152,405           | 280,130           | 250,359                       | 110,110                       | 309,246                           | 669,715            | 76,342                 | 481,416              | 557,758           |
| 2034          | 127,651            | 152,317           | 279,968           | 250,214                       | 110,047                       | 309,068                           | 669,329            | 76,298                 | 481,139              | 557,437           |
| 2035          | 127,670            | 152,340           | 280,010           | 250,251                       | 110,063                       | 309,113                           | 669,427            | 76,309                 | 481,209              | 557,518           |
| <b>TOTAL</b>  | <b>18,647,129</b>  | <b>23,767,021</b> | <b>42,414,150</b> | <b>36,849,428</b>             | <b>17,459,102</b>             | <b>49,009,797</b>                 | <b>103,318,327</b> | <b>12,469,969</b>      | <b>75,364,559</b>    | <b>87,834,528</b> |

(a) 1988 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include bond cover.

**TABLE B-22 Water System Revenue Bond Surcharge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 2 of 4

| Calendar Year | SAN JOAQUIN VALLEY AREA     |                                      |                                      |                          |                    |                  |                         |  | Total              |
|---------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------------|------------------|-------------------------|--|--------------------|
|               | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency |                    | County of Kings  | Oak Flat Water District | Tulare Lake Basin Water Storage District |                    |
|               | [11]                        | [12]                                 | [13]                                 | Municipal and Industrial | Agri-cultural      | [16]             | [17]                    | [18]                                     | [19]               |
| 1971          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1972          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1973          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1974          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1975          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1976          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1977          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1978          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1979          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1980          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1981          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1982          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1983          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1984          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1985          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1986          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1987          | 0                           | 0                                    | 0                                    | 0                        | 0                  | 0                | 0                       | 0  | 0                  |
| 1988          | 33,986                      | 1,657                                | 0                                    | 67,288                   | 726,501            | 2,228            | 2,851                   | 66,748                                   | 901,259            |
| 1989          | 59,273                      | 2,785                                | 0                                    | 116,689                  | 1,251,452          | 3,733            | 4,927                   | 116,736                                  | 1,555,595          |
| 1990          | 53,349                      | 2,419                                | 0                                    | 287,811                  | 947,351            | 3,248            | 4,367                   | 109,118                                  | 1,407,663          |
| 1991          | 82,252                      | 3,731                                | 0                                    | 359,380                  | 1,564,983          | 5,035            | 6,771                   | 168,217                                  | 2,190,369          |
| 1992          | 112,566                     | 5,127                                | 0                                    | 452,691                  | 2,153,423          | 6,927            | 9,285                   | 230,217                                  | 2,970,236          |
| 1993          | 119,670                     | 5,459                                | 0                                    | 272,449                  | 2,491,672          | 7,381            | 9,894                   | 244,813                                  | 3,151,338          |
| 1994          | 118,265                     | 5,379                                | 0                                    | 244,671                  | 2,485,820          | 7,300            | 9,766                   | 241,933                                  | 3,113,134          |
| 1995          | 139,226                     | 6,340                                | 0                                    | 317,885                  | 2,894,181          | 8,599            | 11,490                  | 284,798                                  | 3,662,519          |
| 1996          | 169,333                     | 7,703                                | 0                                    | 354,341                  | 2,722,240          | 10,461           | 13,978                  | 346,367                                  | 3,624,423          |
| 1997          | 165,364                     | 7,980                                | 0                                    | 366,285                  | 2,673,847          | 10,826           | 14,465                  | 357,986                                  | 3,596,753          |
| 1998          | 159,011                     | 7,672                                | 0                                    | 352,211                  | 2,571,110          | 10,410           | 13,909                  | 344,232                                  | 3,458,555          |
| 1999          | 218,784                     | 10,373                               | 0                                    | 485,897                  | 3,371,115          | 14,376           | 19,166                  | 476,017                                  | 4,595,728          |
| 2000          | 251,339                     | 11,735                               | 0                                    | 557,296                  | 3,620,348          | 16,500           | 21,990                  | 546,406                                  | 5,025,614          |
| 2001          | 247,338                     | 11,547                               | 0                                    | 548,424                  | 3,461,158          | 16,238           | 21,640                  | 537,707                                  | 4,844,052          |
| 2002          | 273,542                     | 11,904                               | 0                                    | 565,321                  | 3,496,023          | 16,737           | 22,306                  | 521,659                                  | 4,907,492          |
| 2003          | 284,834                     | 12,395                               | 0                                    | 588,659                  | 3,640,346          | 17,428           | 23,227                  | 543,193                                  | 5,110,082          |
| 2004          | 285,125                     | 12,408                               | 0                                    | 589,259                  | 3,644,059          | 17,446           | 23,251                  | 543,748                                  | 5,115,296          |
| 2005          | 269,179                     | 11,714                               | 0                                    | 556,305                  | 3,431,851          | 39,485           | 21,951                  | 488,483                                  | 4,818,968          |
| 2006          | 291,279                     | 12,676                               | 0                                    | 601,979                  | 3,713,614          | 42,726           | 23,753                  | 528,589                                  | 5,214,616          |
| 2007          | 187,144                     | 8,113                                | 0                                    | 383,463                  | 2,314,841          | 34,088           | 15,230                  | 285,915                                  | 3,228,794          |
| 2008          | 271,383                     | 11,832                               | 0                                    | 563,171                  | 3,478,837          | 41,080           | 22,094                  | 445,805                                  | 4,834,202          |
| 2009          | 303,076                     | 13,189                               | 0                                    | 626,357                  | 3,864,004          | 46,037           | 24,715                  | 497,108                                  | 5,374,486          |
| 2010          | 257,209                     | 12,620                               | 0                                    | 599,335                  | 3,631,924          | 44,051           | 23,648                  | 440,950                                  | 5,009,737          |
| 2011          | 277,794                     | 13,630                               | 0                                    | 647,304                  | 3,922,606          | 47,577           | 25,542                  | 476,242                                  | 5,410,695          |
| 2012          | 271,192                     | 12,709                               | 0                                    | 666,489                  | 5,450,478          | 40,125           | 23,964                  | 510,822                                  | 6,975,779          |
| 2013          | 286,050                     | 13,814                               | 0                                    | 724,170                  | 5,680,875          | 43,592           | 26,041                  | 521,112                                  | 7,295,654          |
| 2014          | 502,213                     | 24,980                               | 0                                    | 1,311,071                | 10,269,483         | 78,931           | 47,126                  | 931,305                                  | 13,165,109         |
| 2015          | 599,890                     | 31,255                               | 0                                    | 1,634,487                | 12,823,108         | 98,626           | 58,931                  | 1,163,909                                | 16,410,206         |
| 2016          | 604,290                     | 31,484                               | 0                                    | 1,646,476                | 12,917,168         | 99,349           | 59,363                  | 1,172,447                                | 16,530,577         |
| 2017          | 597,243                     | 31,117                               | 0                                    | 1,627,275                | 12,766,530         | 98,191           | 58,671                  | 1,158,774                                | 16,337,801         |
| 2018          | 542,062                     | 28,242                               | 0                                    | 1,476,927                | 11,586,995         | 89,119           | 53,250                  | 1,051,711                                | 14,828,306         |
| 2019          | 570,082                     | 29,702                               | 0                                    | 1,553,270                | 12,185,935         | 93,725           | 56,003                  | 1,106,075                                | 15,594,792         |
| 2020          | 539,585                     | 28,113                               | 0                                    | 1,470,177                | 11,534,040         | 88,711           | 53,007                  | 1,046,905                                | 14,760,538         |
| 2021          | 538,281                     | 28,045                               | 0                                    | 1,466,623                | 11,506,161         | 88,497           | 52,879                  | 1,044,374                                | 14,724,860         |
| 2022          | 519,803                     | 27,082                               | 0                                    | 1,416,280                | 11,111,196         | 85,459           | 51,064                  | 1,008,525                                | 14,219,409         |
| 2023          | 524,200                     | 27,311                               | 0                                    | 1,428,259                | 11,205,177         | 86,182           | 51,495                  | 1,017,055                                | 14,339,679         |
| 2024          | 510,437                     | 26,594                               | 0                                    | 1,390,759                | 10,910,975         | 83,919           | 50,143                  | 990,351                                  | 13,963,178         |
| 2025          | 471,871                     | 24,585                               | 0                                    | 1,285,680                | 10,086,596         | 77,579           | 46,355                  | 915,525                                  | 12,908,191         |
| 2026          | 444,956                     | 23,183                               | 0                                    | 1,212,348                | 9,511,283          | 73,154           | 43,711                  | 863,306                                  | 12,171,941         |
| 2027          | 480,112                     | 25,014                               | 0                                    | 1,308,135                | 10,262,763         | 78,934           | 47,164                  | 931,515                                  | 13,133,637         |
| 2028          | 389,610                     | 20,299                               | 0                                    | 1,061,550                | 8,328,218          | 64,055           | 38,274                  | 755,923                                  | 10,657,929         |
| 2029          | 416,684                     | 21,710                               | 0                                    | 1,135,315                | 8,906,937          | 68,506           | 40,933                  | 808,452                                  | 11,398,537         |
| 2030          | 81,669                      | 4,255                                | 0                                    | 222,518                  | 1,745,728          | 13,427           | 8,023                   | 158,454                                  | 2,234,074          |
| 2031          | 81,699                      | 4,257                                | 0                                    | 222,602                  | 1,746,389          | 13,432           | 8,026                   | 158,514                                  | 2,234,919          |
| 2032          | 81,708                      | 4,257                                | 0                                    | 222,626                  | 1,746,577          | 13,433           | 8,027                   | 158,531                                  | 2,235,159          |
| 2033          | 81,735                      | 4,259                                | 0                                    | 222,699                  | 1,747,153          | 13,438           | 8,029                   | 158,583                                  | 2,235,896          |
| 2034          | 81,688                      | 4,256                                | 0                                    | 222,571                  | 1,746,145          | 13,430           | 8,025                   | 158,492                                  | 2,234,607          |
| 2035          | 81,700                      | 4,257                                | 0                                    | 222,604                  | 1,746,402          | 13,432           | 8,026                   | 158,515                                  | 2,234,936          |
| <b>TOTAL</b>  | <b>13,929,081</b>           | <b>691,168</b>                       | <b>0</b>                             | <b>35,655,382</b>        | <b>265,595,618</b> | <b>1,987,163</b> | <b>1,296,746</b>        | <b>26,792,162</b>                        | <b>345,947,320</b> |

(a) 1988 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include bond cover.

**TABLE B-22 Water System Revenue Bond Surcharge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                           |                                 |                                       |                     |                                      |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---------------------------------------|---------------------|--------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley-East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline Lake Arrowhead Water Agency | Desert Water Agency | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
| [20]          | [21]                                   | [22]                      | [23]                            | [24]                                  | [25]                | [26]                                 | [27]                | [28]                    | [29]   |   |
| 1971          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1972          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1973          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1974          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1975          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1976          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1977          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1978          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1979          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1980          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1981          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1982          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1983          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1984          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1985          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1986          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1987          | 0                                      | 0                         | 0                               | 0                                     | 0                   | 0                                    | 0                   | 0                       | 0  |   |
| 1988          | 64,266                                 | 57,111                    | 27,032                          | 7,656                                 | 44,492              | 2,154                                | 55,996              | 16,240                  | 151,182  | 39,907                                      |
| 1989          | 205,668                                | 98,720                    | 46,993                          | 13,263                                | 78,104              | 3,763                                | 97,138              | 27,981                  | 259,860  | 69,104                                      |
| 1990          | 185,010                                | 87,808                    | 42,449                          | 11,905                                | 69,970              | 3,385                                | 87,327              | 24,956                  | 231,650  | 61,851                                      |
| 1991          | 296,854                                | 140,371                   | 65,947                          | 18,548                                | 108,704             | 5,236                                | 135,623             | 38,641                  | 363,310  | 96,172                                      |
| 1992          | 402,015                                | 234,421                   | 89,358                          | 25,192                                | 147,297             | 7,053                                | 183,813             | 52,160                  | 491,537  | 130,372                                     |
| 1993          | 424,871                                | 247,076                   | 93,981                          | 26,566                                | 154,919             | 7,437                                | 193,361             | 55,045                  | 517,379  | 137,298                                     |
| 1994          | 424,023                                | 247,222                   | 94,502                          | 26,865                                | 155,776             | 7,431                                | 194,191             | 54,968                  | 525,394  | 139,422                                     |
| 1995          | 500,084                                | 290,998                   | 111,730                         | 31,822                                | 184,170             | 8,769                                | 229,530             | 64,852                  | 623,848  | 165,593                                     |
| 1996          | 606,388                                | 353,132                   | 135,428                         | 38,634                                | 223,237             | 10,640                               | 278,178             | 78,696                  | 760,333  | 201,821                                     |
| 1997          | 626,151                                | 362,776                   | 139,565                         | 39,802                                | 230,058             | 10,972                               | 286,779             | 81,146                  | 808,482  | 207,472                                     |
| 1998          | 602,091                                | 348,838                   | 134,202                         | 38,273                                | 221,218             | 10,550                               | 275,761             | 78,028                  | 777,418  | 199,501                                     |
| 1999          | 826,108                                | 479,470                   | 184,524                         | 52,650                                | 304,166             | 14,475                               | 642,815             | 107,060                 | 1,041,566                                      | 277,200                                     |
| 2000          | 940,325                                | 1,150,965                 | 210,453                         | 60,212                                | 346,906             | 16,486                               | 736,157             | 121,898                 | 1,191,538                                      | 316,860                                     |
| 2001          | 925,355                                | 1,132,642                 | 207,102                         | 59,254                                | 341,384             | 16,224                               | 724,438             | 135,581                 | 1,172,568                                      | 311,816                                     |
| 2002          | 974,814                                | 1,167,539                 | 213,483                         | 61,079                                | 351,902             | 16,724                               | 746,758             | 139,071                 | 1,208,696                                      | 321,423                                     |
| 2003          | 1,015,056                              | 1,215,738                 | 222,296                         | 63,601                                | 366,429             | 17,415                               | 777,586             | 144,812                 | 1,258,593                                      | 334,692                                     |
| 2004          | 1,016,092                              | 1,216,978                 | 222,523                         | 63,666                                | 366,803             | 17,432                               | 778,379             | 144,960                 | 1,259,877                                      | 335,033                                     |
| 2005          | 959,268                                | 1,148,920                 | 210,078                         | 60,105                                | 346,290             | 16,457                               | 734,849             | 136,853                 | 1,189,420                                      | 316,297                                     |
| 2006          | 1,038,026                              | 1,243,248                 | 1,213,645                       | 65,040                                | 501,286             | 17,809                               | 795,182             | 148,089                 | 1,287,074                                      | 342,266                                     |
| 2007          | 666,215                                | 820,799                   | 1,036,396                       | 41,723                                | 354,543             | 11,413                               | 520,847             | 95,550                  | 825,932  | 219,727                                     |
| 2008          | 999,433                                | 1,167,531                 | 1,157,440                       | 61,924                                | 478,719             | 17,175                               | 757,686             | 144,009                 | 1,367,672                                      | 325,069                                     |
| 2009          | 1,080,062                              | 1,293,596                 | 1,262,793                       | 67,674                                | 521,586             | 18,529                               | 827,383             | 154,087                 | 1,339,196                                      | 356,126                                     |
| 2010          | 1,033,467                              | 1,237,788                 | 1,283,384                       | 64,754                                | 524,108             | 17,731                               | 824,481             | 147,438                 | 1,281,421                                      | 340,762                                     |
| 2011          | 1,116,181                              | 1,336,855                 | 1,386,101                       | 69,937                                | 566,054             | 19,149                               | 890,469             | 159,239                 | 1,383,979                                      | 368,035                                     |
| 2012          | 1,090,934                              | 915,850                   | 1,073,158                       | 67,263                                | 523,945             | 18,453                               | 731,452             | 154,732                 | 1,323,822                                      | 351,925                                     |
| 2013          | 1,186,869                              | 996,745                   | 1,172,413                       | 73,154                                | 570,092             | 20,052                               | 795,549             | 168,130                 | 1,438,513                                      | 382,372                                     |
| 2014          | 2,231,951                              | 1,800,967                 | 2,118,348                       | 132,169                               | 1,030,991           | 36,232                               | 1,437,696           | 303,861                 | 2,602,055                                      | 691,649                                     |
| 2015          | 2,777,943                              | 2,241,459                 | 2,641,005                       | 164,507                               | 1,284,241           | 45,131                               | 1,872,028           | 378,528                 | 3,237,538                                      | 860,687                                     |
| 2016          | 2,798,320                              | 2,257,901                 | 2,660,377                       | 165,714                               | 1,293,661           | 45,462                               | 1,885,760           | 381,305                 | 3,261,286                                      | 867,000                                     |
| 2017          | 2,765,686                              | 2,231,569                 | 2,629,352                       | 163,781                               | 1,278,575           | 44,932                               | 1,863,768           | 376,858                 | 3,223,253                                      | 856,890                                     |
| 2018          | 2,510,157                              | 2,025,388                 | 2,386,419                       | 148,649                               | 1,160,444           | 40,780                               | 1,691,570           | 342,039                 | 2,925,448                                      | 777,719                                     |
| 2019          | 2,639,908                              | 2,130,082                 | 2,509,775                       | 156,333                               | 1,220,428           | 42,888                               | 1,779,008           | 359,719                 | 3,076,666                                      | 817,920                                     |
| 2020          | 2,498,685                              | 2,016,132                 | 2,375,513                       | 147,970                               | 1,155,140           | 40,594                               | 1,683,839           | 340,476                 | 2,912,078                                      | 774,165                                     |
| 2021          | 2,492,645                              | 2,011,259                 | 2,369,771                       | 147,612                               | 1,152,348           | 40,496                               | 1,679,769           | 339,653                 | 2,905,039                                      | 772,294                                     |
| 2022          | 2,407,082                              | 1,942,219                 | 2,288,425                       | 142,545                               | 1,112,792           | 39,106                               | 1,622,108           | 327,994                 | 2,805,320                                      | 745,783                                     |
| 2023          | 2,427,441                              | 1,958,647                 | 2,307,781                       | 143,751                               | 1,122,204           | 39,437                               | 1,635,829           | 330,768                 | 2,829,048                                      | 752,091                                     |
| 2024          | 2,363,707                              | 1,907,221                 | 2,247,188                       | 139,976                               | 1,092,740           | 38,401                               | 1,592,878           | 322,083                 | 2,754,769                                      | 732,345                                     |
| 2025          | 2,185,117                              | 1,763,121                 | 2,077,402                       | 129,400                               | 1,010,178           | 35,500                               | 1,472,528           | 297,748                 | 2,546,632                                      | 677,012                                     |
| 2026          | 2,060,483                              | 1,662,557                 | 1,958,912                       | 122,020                               | 952,560             | 33,475                               | 1,388,539           | 280,766                 | 2,401,379                                      | 638,397                                     |
| 2027          | 2,223,281                              | 1,793,915                 | 2,113,685                       | 131,660                               | 1,027,821           | 36,120                               | 1,498,247           | 302,949                 | 2,591,110                                      | 688,837                                     |
| 2028          | 1,804,189                              | 1,455,759                 | 1,715,252                       | 106,842                               | 834,075             | 29,311                               | 1,215,825           | 245,842                 | 2,102,682                                      | 558,990                                     |
| 2029          | 1,929,560                              | 1,556,918                 | 1,834,443                       | 114,267                               | 892,034             | 31,348                               | 1,300,311           | 262,926                 | 2,248,795                                      | 597,834                                     |
| 2030          | 378,187                                | 305,151                   | 359,544                         | 22,396                                | 174,836             | 6,144                                | 254,856             | 51,533                  | 440,756  | 117,173                                     |
| 2031          | 378,330                                | 305,266                   | 359,680                         | 22,404                                | 174,902             | 6,146                                | 254,953             | 51,552                  | 440,923  | 117,218                                     |
| 2032          | 378,371                                | 305,299                   | 359,719                         | 22,407                                | 174,921             | 6,147                                | 254,980             | 51,558                  | 440,970  | 117,230                                     |
| 2033          | 378,496                                | 305,400                   | 359,838                         | 22,414                                | 174,978             | 6,149                                | 255,064             | 51,575                  | 441,116  | 117,269                                     |
| 2034          | 378,277                                | 305,223                   | 359,630                         | 22,401                                | 174,877             | 6,146                                | 254,917             | 51,545                  | 440,861  | 117,201                                     |
| 2035          | 378,333                                | 305,268                   | 359,683                         | 22,405                                | 174,903             | 6,146                                | 254,955             | 51,552                  | 440,926  | 117,219                                     |
| TOTAL         | 59,591,775                             | 51,579,858                | 50,428,718                      | 3,602,185                             | 26,751,807          | 989,005                              | 40,451,156          | 8,177,052               | 71,148,910                                     | 18,861,039                                  |

(a) 1988 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include bond cover.

**TABLE B-22 Water System Revenue Bond Surcharge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |               | FEATHER RIVER AREA |                 |                      |           | South Bay Area Future Contractor | GRAND TOTAL   |
|---------------|--------------------------------------|--|--|---------------|--------------------|-----------------|----------------------|-----------|----------------------------------|---------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total         | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total     |                                  |               |
|               | [30]                                 | [31]   | [32]   | [33]          | [34]               | [35]            | [36]                 | [37]      | [38]                             | [39]          |
| 1971          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1972          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1973          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1974          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1975          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1976          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1977          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1978          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1979          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1980          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1981          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1982          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1983          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1984          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1985          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1986          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1987          | 0                                    | 0  | 0  | 0             | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1988          | 24,019                               | 2,642,354  | 18,118                                       | 3,150,527     | 1,336              | 552             | 853                  | 2,741     | 0                                | 4,317,328     |
| 1989          | 42,040                               | 4,587,641  | 34,565                                       | 5,564,840     | 0                  | 918             | 1,454                | 2,372     | 0                                | 7,583,021     |
| 1990          | 38,023                               | 4,037,980  | 34,994                                       | 4,917,308     | 2,535              | 800             | 1,283                | 4,618     | 0                                | 6,750,020     |
| 1991          | 59,122                               | 6,259,893  | 54,115                                       | 7,642,536     | 9,945              | 1,243           | 2,027                | 13,215    | 0                                | 10,510,679    |
| 1992          | 80,131                               | 8,435,312  | 72,892                                       | 10,351,553    | 13,671             | 1,710           | 2,806                | 18,187    | 0                                | 14,255,669    |
| 1993          | 84,371                               | 8,885,273  | 76,858                                       | 10,904,435    | 14,608             | 1,827           | 3,026                | 19,461    | 0                                | 15,068,309    |
| 1994          | 85,698                               | 8,926,755  | 76,794                                       | 10,959,041    | 14,409             | 1,801           | 3,070                | 19,280    | 0                                | 15,145,690    |
| 1995          | 101,792                              | 10,539,430   | 90,436                                       | 12,943,054    | 16,958             | 2,119           | 3,705                | 22,782    | 0                                | 18,013,188    |
| 1996          | 124,074                              | 12,810,359   | 109,783                                      | 15,730,703    | 20,640             | 2,579           | 4,620                | 27,839    | 0                                | 21,369,059    |
| 1997          | 28,259                               | 13,168,230   | 112,960                                      | 16,102,652    | 21,382             | 2,674           | 4,872                | 28,928    | 0                                | 21,970,360    |
| 1998          | 27,174                               | 12,662,268   | 108,619                                      | 15,483,941    | 20,562             | 2,571           | 4,685                | 27,818    | 0                                | 21,126,192    |
| 1999          | 53,545                               | 17,454,651   | 149,123                                      | 21,587,353    | 28,348             | 3,543           | 6,765                | 38,656    | 0                                | 29,200,538    |
| 2000          | 70,117                               | 19,805,800   | 168,259                                      | 25,153,976    | 32,271             | 9,794           | 7,996                | 50,061    | 0                                | 33,737,389    |
| 2001          | 69,001                               | 19,490,499   | 165,580                                      | 24,751,444    | 31,757             | 9,638           | 7,869                | 49,264    | 0                                | 33,419,720    |
| 2002          | 71,126                               | 20,091,004   | 170,682                                      | 25,534,301    | 32,736             | 9,935           | 8,112                | 50,783    | 0                                | 34,452,492    |
| 2003          | 74,063                               | 20,920,403   | 177,728                                      | 26,588,412    | 34,087             | 10,345          | 8,446                | 52,878    | 0                                | 35,874,763    |
| 2004          | 74,138                               | 20,941,743   | 177,910                                      | 26,615,534    | 34,121             | 10,356          | 8,456                | 52,933    | 0                                | 35,911,363    |
| 2005          | 69,992                               | 19,770,593   | 167,960                                      | 25,127,082    | 32,213             | 9,776           | 7,983                | 49,972    | 0                                | 33,903,044    |
| 2006          | 75,738                               | 20,330,228   | 181,750                                      | 27,239,381    | 34,858             | 10,579          | 8,638                | 54,075    | 0                                | 36,735,870    |
| 2007          | 45,192                               | 12,752,863   | 116,415                                      | 17,507,615    | 22,362             | 7,007           | 5,579                | 34,948    | 0                                | 23,537,874    |
| 2008          | 250,631                              | 19,303,204   | 173,561                                      | 26,204,054    | 32,180             | 9,751           | 7,973                | 49,904    | 0                                | 35,188,221    |
| 2009          | 78,805                               | 21,153,536   | 189,110                                      | 28,342,483    | 36,270             | 11,008          | 8,988                | 56,266    | 0                                | 38,172,245    |
| 2010          | 75,405                               | 20,240,944   | 180,952                                      | 27,252,635    | 34,705             | 10,532          | 8,600                | 53,837    | 0                                | 36,525,441    |
| 2011          | 81,440                               | 21,860,932   | 195,434                                      | 29,433,805    | 37,482             | 11,375          | 9,289                | 58,146    | 0                                | 39,448,763    |
| 2012          | 215,055                              | 22,686,017   | 191,051                                      | 29,343,657    | 35,313             | 101,156         | 12,344               | 148,813   | 0                                | 41,009,352    |
| 2013          | 233,662                              | 23,602,562   | 207,636                                      | 30,847,749    | 38,359             | 109,882         | 13,628               | 161,869   | 0                                | 43,244,214    |
| 2014          | 422,653                              | 42,670,698   | 375,172                                      | 55,854,442    | 69,454             | 198,959         | 25,501               | 293,914   | 0                                | 78,240,723    |
| 2015          | 525,953                              | 53,118,787   | 467,025                                      | 69,614,832    | 86,899             | 248,931         | 33,020               | 368,850   | 0                                | 97,458,837    |
| 2016          | 529,811                              | 53,508,425   | 470,451                                      | 70,125,473    | 87,536             | 250,757         | 33,262               | 371,555   | 0                                | 98,173,718    |
| 2017          | 523,632                              | 52,884,418   | 464,964                                      | 69,307,678    | 86,516             | 247,833         | 32,874               | 367,223   | 0                                | 97,028,831    |
| 2018          | 475,253                              | 47,998,279   | 422,005                                      | 62,904,150    | 78,522             | 224,935         | 29,837               | 333,294   | 0                                | 88,064,067    |
| 2019          | 499,819                              | 50,479,343   | 443,819                                      | 66,155,708    | 82,581             | 236,562         | 31,379               | 350,522   | 0                                | 92,616,160    |
| 2020          | 473,081                              | 47,778,919   | 420,076                                      | 62,616,668    | 78,163             | 223,907         | 29,701               | 331,771   | 0                                | 87,661,601    |
| 2021          | 471,937                              | 47,663,431   | 419,061                                      | 62,465,315    | 77,974             | 223,366         | 29,629               | 330,969   | 0                                | 87,449,711    |
| 2022          | 455,737                              | 46,027,317   | 404,676                                      | 60,321,104    | 75,298             | 215,698         | 28,612               | 319,608   | 0                                | 84,447,875    |
| 2023          | 459,592                              | 46,416,627   | 408,099                                      | 60,831,315    | 75,935             | 217,523         | 28,854               | 322,312   | 0                                | 85,162,157    |
| 2024          | 447,525                              | 45,197,917   | 397,384                                      | 59,234,134    | 73,941             | 211,811         | 28,096               | 313,848   | 0                                | 82,926,146    |
| 2025          | 413,712                              | 41,782,987   | 367,360                                      | 54,758,697    | 68,354             | 195,808         | 25,973               | 290,135   | 0                                | 76,660,659    |
| 2026          | 390,115                              | 39,399,793   | 346,406                                      | 51,635,402    | 64,456             | 184,640         | 24,492               | 273,588   | 0                                | 72,288,135    |
| 2027          | 420,938                              | 42,512,745   | 373,776                                      | 55,775,084    | 69,548             | 199,228         | 26,427               | 295,203   | 0                                | 77,999,574    |
| 2028          | 341,590                              | 34,499,036   | 303,319                                      | 45,212,712    | 56,438             | 161,673         | 21,445               | 239,556   | 0                                | 63,296,545    |
| 2029          | 365,327                              | 36,896,333   | 324,396                                      | 48,354,492    | 60,360             | 172,908         | 22,936               | 256,204   | 0                                | 67,694,951    |
| 2030          | 71,603                               | 7,231,551  | 63,580                                       | 9,477,310     | 11,830             | 33,889          | 4,495                | 50,214    | 0                                | 13,267,971    |
| 2031          | 71,630                               | 7,234,288  | 63,604                                       | 9,480,896     | 11,835             | 33,902          | 4,497                | 50,234    | 0                                | 13,272,992    |
| 2032          | 71,638                               | 7,235,066  | 63,611                                       | 9,481,917     | 11,836             | 33,906          | 4,498                | 50,240    | 0                                | 13,274,423    |
| 2033          | 71,661                               | 7,237,452  | 63,632                                       | 9,485,044     | 11,840             | 33,917          | 4,499                | 50,256    | 0                                | 13,278,799    |
| 2034          | 71,620                               | 7,233,279  | 63,596                                       | 9,479,573     | 11,833             | 33,897          | 4,496                | 50,226    | 0                                | 13,271,140    |
| 2035          | 71,630                               | 7,234,343  | 63,605                                       | 9,480,968     | 11,835             | 33,902          | 4,497                | 50,234    | 0                                | 13,273,093    |
| TOTAL         | 9,879,070                            | 1,165,601,508  | 10,192,902                                   | 1,517,254,985 | 1,896,092          | 3,971,423       | 642,087              | 6,509,602 | 0                                | 2,103,278,912 |

(a) 1988 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include bond cover.

**TABLE B-23 Total Transportation and Delta Water Charge for Each Contractor<sup>a</sup>**

Sheet 1 of 4

| Calendar Year | (in dollars)       |                   |                   |                               |                               |                                   |                   |                               |                             |                   |  |
|---------------|--------------------|-------------------|-------------------|-------------------------------|-------------------------------|-----------------------------------|-------------------|-------------------------------|-----------------------------|-------------------|--|
|               | NORTH BAY AREA     |                   |                   | SOUTH BAY AREA                |                               |                                   |                   | CENTRAL COASTAL AREA          |                             |                   |  |
|               | Napa County FC&WCD | Solano County WA  | Total             | Alameda County FC&WCD, Zone 7 | Alameda County Water District | Santa Clara Valley Water District | Total             | San Luis Obispo County FC&WCD | Santa Barbara County FC&WCD | Total             |  |
| [1]           | [2]                | [3]               | [4]               | [5]                           | [6]                           | [7]                               | [8]               | [9]                           | [10]                        |                   |  |
| 1961          | 0                  | 0                 | 0                 | 0                             | 0                             | 0                                 | 0                 | 0                             | 0                           | 0                 |  |
| 1962          | 0                  | 0                 | 0                 | 11,750                        | 43,787                        | 21,132                            | 76,669            | 0                             | 0                           | 0                 |  |
| 1963          | 0                  | 0                 | 0                 | 199,726                       | 190,272                       | 447,723                           | 837,721           | 0                             | 0                           | 0                 |  |
| 1964          | 0                  | 0                 | 0                 | 263,282                       | 277,455                       | 621,356                           | 1,162,093         | 6,696                         | 21,667                      | 28,363            |  |
| 1965          | 0                  | 0                 | 0                 | 373,816                       | 404,324                       | 1,158,090                         | 1,936,230         | 13,756                        | 36,029                      | 49,785            |  |
| 1966          | 18,063             | 0                 | 18,063            | 419,467                       | 421,723                       | 1,412,953                         | 2,254,143         | 26,524                        | 61,349                      | 87,873            |  |
| 1967          | 41,574             | 0                 | 41,574            | 553,115                       | 548,491                       | 1,863,199                         | 2,964,805         | 56,469                        | 118,263                     | 174,731           |  |
| 1968          | 128,628            | 0                 | 128,628           | 683,008                       | 633,184                       | 2,178,466                         | 3,494,658         | 115,961                       | 229,807                     | 345,768           |  |
| 1969          | 254,715            | 0                 | 254,715           | 817,725                       | 583,436                       | 2,298,736                         | 3,699,897         | 185,156                       | 358,861                     | 544,017           |  |
| 1970          | 277,547            | 0                 | 277,547           | 904,084                       | 640,297                       | 2,787,966                         | 4,332,348         | 200,150                       | 387,675                     | 587,825           |  |
| 1971          | 227,474            | 0                 | 227,474           | 845,618                       | 675,194                       | 2,807,017                         | 4,327,829         | 202,413                       | 392,912                     | 595,325           |  |
| 1972          | 224,978            | 0                 | 224,978           | 929,747                       | 822,396                       | 3,027,748                         | 4,779,891         | 209,057                       | 406,589                     | 615,646           |  |
| 1973          | 221,091            | 31,366            | 252,457           | 916,248                       | 716,492                       | 3,120,787                         | 4,753,527         | 206,557                       | 402,724                     | 609,281           |  |
| 1974          | 240,498            | 32,938            | 273,437           | 956,891                       | 746,932                       | 3,325,023                         | 5,028,846         | 208,545                       | 407,090                     | 615,635           |  |
| 1975          | 237,459            | 36,291            | 273,750           | 1,015,373                     | 793,055                       | 3,214,046                         | 5,022,474         | 225,895                       | 439,873                     | 665,768           |  |
| 1976          | 271,292            | 40,836            | 312,127           | 1,128,475                     | 943,464                       | 3,362,541                         | 5,434,480         | 228,976                       | 447,299                     | 676,275           |  |
| 1977          | 293,627            | 45,096            | 338,723           | 1,097,155                     | 922,203                       | 3,303,461                         | 5,322,819         | 238,699                       | 468,721                     | 707,420           |  |
| 1978          | 273,870            | 49,178            | 323,048           | 1,186,025                     | 935,818                       | 3,712,581                         | 5,834,424         | 245,331                       | 484,259                     | 729,590           |  |
| 1979          | 289,479            | 53,340            | 342,819           | 1,282,669                     | 1,009,566                     | 3,819,533                         | 6,111,769         | 243,110                       | 483,437                     | 726,547           |  |
| 1980          | 310,846            | 86,073            | 366,919           | 1,435,715                     | 1,173,798                     | 4,119,072                         | 6,728,585         | 282,254                       | 540,553                     | 822,807           |  |
| 1981          | 347,781            | 112,848           | 460,629           | 1,544,329                     | 1,349,125                     | 4,507,566                         | 7,401,020         | 307,065                       | 596,671                     | 903,736           |  |
| 1982          | 438,335            | 141,835           | 580,171           | 1,624,729                     | 1,369,535                     | 4,941,393                         | 7,935,657         | 328,215                       | 682,545                     | 1,010,760         |  |
| 1983          | 354,787            | 163,294           | 518,081           | 1,495,100                     | 1,260,138                     | 4,910,241                         | 7,665,478         | 357,218                       | 702,083                     | 1,059,301         |  |
| 1984          | 467,336            | 246,698           | 714,034           | 1,805,189                     | 1,478,395                     | 6,870,249                         | 10,153,833        | 409,529                       | 801,057                     | 1,210,586         |  |
| 1985          | 736,074            | 386,306           | 1,122,380         | 2,303,104                     | 2,225,097                     | 7,796,485                         | 12,324,686        | 500,696                       | 969,931                     | 1,470,626         |  |
| 1986          | 1,120,086          | 714,246           | 1,834,332         | 2,171,803                     | 2,014,104                     | 8,193,845                         | 12,379,751        | 536,751                       | 1,038,031                   | 1,574,782         |  |
| 1987          | 1,773,801          | 1,582,227         | 3,356,028         | 2,668,398                     | 2,505,662                     | 7,980,254                         | 13,154,314        | 570,644                       | 1,148,974                   | 1,719,618         |  |
| 1988          | 2,349,572          | 2,524,763         | 4,874,335         | 2,729,642                     | 2,774,430                     | 7,830,285                         | 13,334,357        | 673,071                       | 1,439,620                   | 2,112,691         |  |
| 1989          | 2,548,764          | 3,701,384         | 6,250,149         | 2,713,655                     | 2,515,471                     | 7,578,849                         | 12,807,976        | 772,570                       | 1,814,759                   | 2,587,329         |  |
| 1990          | 2,900,024          | 3,848,934         | 6,748,958         | 3,149,016                     | 2,929,775                     | 8,355,392                         | 14,434,183        | 933,367                       | 2,046,370                   | 2,979,737         |  |
| 1991          | 2,941,321          | 4,170,227         | 7,111,548         | 2,420,949                     | 2,384,247                     | 6,430,833                         | 11,236,029        | 979,709                       | 2,366,841                   | 3,346,550         |  |
| 1992          | 2,797,728          | 4,144,992         | 6,942,720         | 2,895,423                     | 2,927,115                     | 7,656,940                         | 13,479,478        | 1,118,807                     | 2,526,861                   | 3,645,668         |  |
| 1993          | 2,855,497          | 4,172,491         | 7,027,988         | 3,752,199                     | 2,977,354                     | 8,849,995                         | 15,579,548        | 1,185,665                     | 2,726,057                   | 3,911,722         |  |
| 1994          | 2,987,937          | 4,225,292         | 7,213,229         | 3,789,292                     | 3,586,255                     | 9,613,545                         | 16,989,092        | 1,335,974                     | 3,518,042                   | 4,854,015         |  |
| 1995          | 2,961,322          | 4,405,219         | 7,366,541         | 4,037,932                     | 3,313,350                     | 8,393,828                         | 15,745,110        | 1,647,817                     | 6,195,415                   | 7,843,231         |  |
| 1996          | 3,045,021          | 4,898,210         | 7,943,232         | 3,645,771                     | 3,178,398                     | 9,228,554                         | 16,052,722        | 2,592,042                     | 15,232,542                  | 17,824,585        |  |
| 1997          | 3,028,005          | 4,734,808         | 7,762,813         | 3,872,279                     | 3,145,551                     | 9,338,016                         | 16,355,846        | 3,002,833                     | 23,737,164                  | 26,739,997        |  |
| 1998          | 2,936,062          | 4,588,897         | 7,524,960         | 3,479,120                     | 3,201,607                     | 9,077,806                         | 15,758,533        | 3,254,940                     | 28,393,640                  | 31,648,580        |  |
| 1999          | 3,162,567          | 5,081,250         | 8,243,818         | 4,198,653                     | 3,688,287                     | 11,423,226                        | 19,310,167        | 3,809,439                     | 29,668,071                  | 33,477,511        |  |
| 2000          | 3,462,955          | 5,631,508         | 9,094,463         | 5,788,298                     | 5,583,917                     | 10,187,021                        | 19,559,237        | 3,763,597                     | 30,355,972                  | 34,119,569        |  |
| 2001          | 4,099,156          | 6,438,116         | 10,537,272        | 9,837,697                     | 4,092,004                     | 11,653,603                        | 25,583,304        | 4,322,643                     | 32,496,833                  | 36,819,476        |  |
| 2002          | 4,331,166          | 6,602,336         | 10,933,501        | 13,351,967                    | 4,086,852                     | 13,155,628                        | 30,594,446        | 4,045,011                     | 32,176,511                  | 36,221,522        |  |
| 2003          | 4,452,319          | 6,941,726         | 11,394,045        | 9,998,511                     | 3,808,708                     | 11,952,886                        | 25,760,105        | 4,123,875                     | 32,470,866                  | 36,594,741        |  |
| 2004          | 4,991,745          | 7,312,200         | 12,303,946        | 8,375,006                     | 4,208,138                     | 11,648,598                        | 24,231,742        | 4,192,688                     | 33,016,499                  | 37,209,186        |  |
| 2005          | 4,339,836          | 6,785,352         | 11,125,188        | 8,409,988                     | 4,330,943                     | 12,340,449                        | 25,081,380        | 4,298,154                     | 33,055,375                  | 37,353,530        |  |
| 2006          | 4,315,909          | 6,370,709         | 10,686,618        | 8,462,663                     | 4,365,367                     | 12,568,110                        | 25,396,139        | 4,181,197                     | 32,831,362                  | 37,012,559        |  |
| 2007          | 4,462,308          | 6,804,565         | 11,266,873        | 9,413,611                     | 4,839,485                     | 13,683,071                        | 27,936,168        | 4,260,373                     | 33,531,913                  | 37,792,286        |  |
| 2008          | 5,237,674          | 6,827,706         | 12,065,380        | 10,600,554                    | 5,227,357                     | 14,109,519                        | 29,937,431        | 4,837,248                     | 35,176,092                  | 40,013,340        |  |
| 2009          | 5,786,417          | 7,063,908         | 12,850,325        | 9,746,239                     | 4,951,789                     | 14,365,832                        | 29,063,860        | 4,762,007                     | 33,913,963                  | 38,675,970        |  |
| 2010          | 6,406,549          | 8,799,706         | 15,206,255        | 11,197,622                    | 5,605,649                     | 15,916,180                        | 32,719,451        | 5,290,059                     | 36,372,116                  | 41,662,175        |  |
| 2011          | 6,887,252          | 9,365,048         | 16,252,300        | 12,744,876                    | 6,415,170                     | 18,025,378                        | 37,185,424        | 5,460,141                     | 37,575,153                  | 43,035,293        |  |
| 2012          | 7,441,659          | 9,301,259         | 16,742,918        | 13,853,319                    | 6,512,349                     | 20,535,992                        | 40,901,660        | 5,597,189                     | 38,213,974                  | 43,771,164        |  |
| 2013          | 7,262,188          | 9,402,255         | 16,664,443        | 15,010,960                    | 7,408,918                     | 20,889,526                        | 43,309,403        | 5,992,747                     | 40,686,101                  | 46,678,849        |  |
| 2014          | 8,165,422          | 10,622,611        | 18,788,033        | 15,439,115                    | 7,491,059                     | 21,849,108                        | 44,777,282        | 6,255,801                     | 39,859,947                  | 46,115,748        |  |
| 2015          | <b>8,675,321</b>   | <b>11,464,792</b> | <b>20,140,113</b> | <b>17,287,426</b>             | <b>8,531,059</b>              | <b>24,881,605</b>                 | <b>50,700,089</b> | <b>8,242,720</b>              | <b>44,239,467</b>           | <b>52,482,187</b> |  |
| 2016          | 8,655,592          | 11,426,763        | 20,086,355        | 17,594,339                    | 8,527,513                     | 25,473,630                        | 51,595,481        | 8,286,707                     | 44,573,828                  | 52,860,535        |  |
| 2017          | 8,876,525          | 11,541,827        | 20,418,352        | 17,260,047                    | 8,341,973                     | 24,092,712                        | 49,694,732        | 8,339,243                     | 44,564,145                  | 52,903,388        |  |
| 2018          | 8,709,026          | 11,471,952        | 20,180,978        | 16,838,917                    | 8,156,914                     | 23,583,547                        | 48,579,379        | 8,197,589                     | 44,120,230                  | 52,317,819        |  |
| 2019          | 8,725,912          | 11,569,597        | 20,295,509        | 16,931,942                    | 8,279,199                     | 23,268,582                        | 48,479,722        | 8,039,683                     | 44,367,987                  | 52,407,670        |  |
| 2020          | 8,695,343          | 11,556,512        | 20,251,855        | 16,850,121                    | 8,245,183                     | 23,191,289                        | 48,286,593        | 8,029,850                     | 44,283,058                  | 52,312,908        |  |
| 2021          | 8,715,428          | 11,600,931        | 20,316,359        | 16,994,658                    | 8,318,718                     | 23,391,043                        | 48,704,420        | 8,078,760                     | 44,439,590                  | 52,518,351        |  |
| 2022          | 8,705,587          | 11,610,056        | 20,315,643        | 16,928,742                    | 8,286,010                     | 23,325,607                        | 48,540,359        | 8,065,385                     | 44,392,793                  | 52,458,178        |  |
| 2023          | 8,729,813          | 11,626,738        | 20,356,551        | 17,032,140                    | 8,336,092                     | 23,471,096                        | 48,839,328        | 8,095,919                     | 44,531,494                  | 52,627,413        |  |
| 2024          | 8,724,629          | 11,642,679        | 20,367,308        | 16,937,037                    | 8,287,097                     | 23,371,642                        | 48,595,776        | 8,072,309                     | 44,481,887                  | 52,554,196        |  |
| 2025          | 8,671,570          | 11,608,272        | 20,279,843        | 16,842,477                    | 8,244,564                     | 23,273,310                        | 48,360,351        | 8,042,990                     | 44,325,214                  | 52,368,204        |  |
| 2026          | 8,646,490          | 11,599,456        | 20,245,946        | 16,821,369                    | 8,237,360                     | 23,266,640                        | 48,325,369        | 8,040,195                     | 44,271,071                  | 52,311,265        |  |
| 2027          | 8,720,950          | 11,707,462        | 20,428,412        | 16,882,414                    | 8,257,323                     | 23,359,480                        | 48,499,216        | 8,070,830                     | 44,527,552                  | 52,598,382        |  |
| 2028          | 8,597,739          | 11,580,792        | 20,178,531        | 16,867,908                    | 8,269,138                     | 23,360,862                        | 48,497,909        | 8,055,222                     | 44,202,920                  | 52,258,142        |  |
| 2029          | 8,658,743          | 11,674,196        | 20,332,939        | 17,012,429                    | 8,334,514                     | 23,558,178                        | 48,905,120        | 8,105,836                     | 44,473,650                  | 52,579,485        |  |
| 2030          | 8,146,148          | 11,081,057        | 19,227,206        | 15,794,732                    | 7,780,435                     | 22,072,787                        | 45,647,954        | 7,749,755                     | 42,460,242                  | 50,209,997        |  |
| 2031          | 8,153,977          | 11,108,295        | 19,262,272        | 15,985,949                    | 7,876,688                     | 22,329,056                        |                   |                               |                             |                   |  |

**TABLE B-23 Total Transportation and Delta Water Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 2 of 4

| SAN JOAQUIN VALLEY AREA |                             |                                      |                                      |                          |                          |                   |                         |  |                      |
|-------------------------|-----------------------------|--------------------------------------|--------------------------------------|--------------------------|--------------------------|-------------------|-------------------------|--|----------------------|
| Calendar Year           | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency |                          | County of Kings   | Oak Flat Water District | Tulare Lake Basin Water Storage District | Total                |
|                         | [11]                        | [12]                                 | [13]                                 | [14]                     | Municipal and Industrial | Agricultural      | [16]                    | [17]                                     | [18]                 |
| 1961                    | 0                           | 0                                    | 0                                    | 0                        | 0                        | 0                 | 0                       | 0  | 0                    |
| 1962                    | 0                           | 0                                    | 0                                    | 0                        | 0                        | 0                 | 0                       | 0  | 0                    |
| 1963                    | 0                           | 0                                    | 0                                    | 0                        | 0                        | 0                 | 0                       | 0  | 0                    |
| 1964                    | 0                           | 0                                    | 2,725                                | 0                        | 0                        | 0                 | 0                       | 0  | 2,725                |
| 1965                    | 0                           | 0                                    | 6,029                                | 73,569                   | 0                        | 0                 | 0                       | 0  | 79,598               |
| 1966                    | 0                           | 0                                    | 12,039                               | 137,330                  | 0                        | 0                 | 0                       | 0  | 149,368              |
| 1967                    | 0                           | 0                                    | 26,257                               | 267,611                  | 0                        | 0                 | 0                       | 0  | 293,869              |
| 1968                    | 225,807                     | 19,403                               | 54,588                               | 445,439                  | 1,712,350                | 16,947            | 19,718                  | 307,920                                  | 2,802,171            |
| 1969                    | 241,987                     | 11,002                               | 87,576                               | 525,094                  | 2,734,804                | 16,825            | 19,458                  | 461,080                                  | 4,097,826            |
| 1970                    | 307,191                     | 34,437                               | 94,675                               | 573,998                  | 3,885,921                | 21,435            | 30,482                  | 522,964                                  | 5,471,103            |
| 1971                    | 328,738                     | 37,165                               | 95,695                               | 605,889                  | 5,172,036                | 27,176            | 34,770                  | 714,325                                  | 7,015,793            |
| 1972                    | 382,538                     | 40,426                               | 98,788                               | 631,615                  | 7,147,591                | 26,473            | 63,986                  | 1,990,547                                | 10,381,964           |
| 1973                    | 399,984                     | 39,048                               | 97,550                               | 1,025,888                | 7,295,682                | 28,816            | 39,364                  | 784,056                                  | 9,710,389            |
| 1974                    | 509,030                     | 40,262                               | 98,460                               | 1,143,571                | 8,016,692                | 29,545            | 42,675                  | 1,045,789                                | 10,926,023           |
| 1975                    | 681,933                     | 40,710                               | 106,703                              | 1,196,448                | 9,402,248                | 31,240            | 48,294                  | 1,559,566                                | 13,067,143           |
| 1976                    | 720,971                     | 43,231                               | 108,084                              | 1,323,177                | 10,649,796               | 32,666            | 52,244                  | 1,444,351                                | 14,374,522           |
| 1977                    | 581,210                     | 39,149                               | 112,554                              | 1,365,869                | 10,970,829               | 34,434            | 54,340                  | 1,140,183                                | 14,298,567           |
| 1978                    | 699,860                     | 36,029                               | 115,521                              | 1,564,175                | 13,300,362               | 38,927            | 59,162                  | 1,174,340                                | 16,988,376           |
| 1979                    | 783,485                     | 47,984                               | 114,253                              | 1,668,163                | 15,376,891               | 43,064            | 70,757                  | 1,728,640                                | 19,833,236           |
| 1980                    | 964,565                     | 49,720                               | 125,950                              | 1,770,264                | 17,034,644               | 48,021            | 95,125                  | 1,674,898                                | 21,763,186           |
| 1981                    | 1,213,504                   | 84,086                               | 134,169                              | 2,427,527                | 22,643,771               | 66,495            | 100,779                 | 2,286,129                                | 28,956,461           |
| 1982                    | 1,249,620                   | 70,279                               | 135,057                              | 2,516,846                | 25,046,234               | 70,662            | 108,432                 | 2,281,000                                | 31,478,130           |
| 1983                    | 1,183,985                   | 52,630                               | 149,202                              | 2,085,047                | 24,689,576               | 75,443            | 87,560                  | 507,111                                  | 28,830,554           |
| 1984                    | 1,493,586                   | 28,612                               | 164,505                              | 3,352,672                | 33,466,901               | 94,321            | 121,581                 | 1,543,657                                | 40,265,836           |
| 1985                    | 1,769,497                   | 130,042                              | 184,905                              | 3,876,681                | 39,410,710               | 117,584           | 139,666                 | 2,817,622                                | 48,446,705           |
| 1986                    | 2,011,446                   | 79,419                               | 180,445                              | 4,079,837                | 43,488,140               | 136,715           | 153,328                 | 3,657,603                                | 53,786,933           |
| 1987                    | 1,886,759                   | 95,337                               | 179,872                              | 4,557,695                | 42,788,329               | 137,333           | 151,570                 | 3,750,680                                | 53,547,575           |
| 1988                    | 1,971,846                   | 109,715                              | 193,735                              | 4,704,494                | 44,745,002               | 138,279           | 146,736                 | 3,905,339                                | 55,915,146           |
| 1989                    | 2,126,608                   | 101,843                              | 187,913                              | 4,652,237                | 46,934,233               | 137,085           | 166,568                 | 4,386,918                                | 58,693,405           |
| 1990                    | 1,884,882                   | 87,045                               | 221,392                              | 4,799,306                | 45,716,464               | 121,153           | 148,874                 | 3,965,260                                | 56,944,376           |
| 1991                    | 1,691,377                   | 80,335                               | 220,282                              | 4,535,868                | 37,563,532               | 103,909           | 134,884                 | 3,506,270                                | 47,836,458           |
| 1992                    | 2,237,279                   | 105,154                              | 241,455                              | 5,540,058                | 48,770,737               | 143,783           | 175,867                 | 4,545,100                                | 61,759,434           |
| 1993                    | 2,459,434                   | 120,157                              | 264,959                              | 5,775,636                | 54,692,220               | 161,521           | 195,432                 | 5,298,954                                | 68,968,313           |
| 1994                    | 2,264,257                   | 107,662                              | 306,359                              | 5,200,567                | 52,142,077               | 145,625           | 178,244                 | 4,671,654                                | 65,016,444           |
| 1995                    | 2,860,717                   | 115,581                              | 304,297                              | 6,613,715                | 60,600,266               | 180,802           | 210,577                 | 5,530,488                                | 76,416,442           |
| 1996                    | 2,053,095                   | 125,270                              | 389,203                              | 6,666,563                | 58,677,014               | 178,474           | 190,189                 | 7,096,253                                | 75,376,061           |
| 1997                    | 2,764,358                   | 100,674                              | 276,681                              | 6,429,190                | 57,543,704               | 138,117           | 212,389                 | 4,718,384                                | 72,183,496           |
| 1998                    | 2,610,039                   | 119,966                              | 381,847                              | 5,733,156                | 54,025,834               | 143,433           | 203,999                 | 4,971,684                                | 68,189,957           |
| 1999                    | 2,705,759                   | 136,279                              | 369,935                              | 6,368,370                | 57,698,136               | 184,155           | 218,991                 | 7,440,035                                | 75,121,660           |
| 2000                    | 2,586,447                   | 120,475                              | 302,623                              | 6,090,727                | 51,154,615               | 173,622           | 212,922                 | 6,145,786                                | 66,787,217           |
| 2001                    | 3,277,064                   | 145,850                              | 328,030                              | 5,650,980                | 58,693,582               | 192,421           | 259,861                 | 6,450,093                                | 74,997,880           |
| 2002                    | 2,986,397                   | 127,704                              | 320,646                              | 6,166,342                | 53,527,875               | 187,288           | 238,802                 | 5,784,551                                | 69,339,606           |
| 2003                    | 3,037,550                   | 131,560                              | 340,169                              | 6,530,982                | 56,070,091               | 202,251           | 238,074                 | 6,069,177                                | 72,619,854           |
| 2004                    | 3,223,542                   | 168,096                              | 342,218                              | 7,843,590                | 56,635,394               | 355,137           | 253,533                 | 5,824,942                                | 74,646,453           |
| 2005                    | 3,777,212                   | 176,470                              | 355,392                              | 6,995,648                | 67,121,149               | 688,018           | 250,147                 | 6,653,059                                | 86,017,095           |
| 2006                    | 3,589,509                   | 166,698                              | 294,884                              | 7,455,481                | 63,951,945               | 532,519           | 254,655                 | 5,862,519                                | 82,108,209           |
| 2007                    | 3,393,419                   | 158,697                              | 332,686                              | 7,095,927                | 61,099,834               | 519,721           | 252,402                 | 5,824,375                                | 78,677,061           |
| 2008                    | 3,362,360                   | 156,258                              | 469,102                              | 7,725,136                | 61,937,860               | 544,162           | 260,434                 | 5,515,172                                | 79,970,483           |
| 2009                    | 3,271,021                   | 154,615                              | 433,629                              | 6,909,020                | 61,001,686               | 522,860           | 261,471                 | 5,457,708                                | 78,012,010           |
| 2010                    | 3,657,701                   | 237,178                              | 509,790                              | 8,098,254                | 72,703,267               | 654,878           | 329,556                 | 6,541,252                                | 92,731,875           |
| 2011                    | 4,551,196                   | 218,574                              | 504,541                              | 9,701,941                | 90,193,740               | 737,864           | 356,620                 | 6,901,084                                | 113,165,560          |
| 2012                    | 3,732,603                   | 231,137                              | 469,091                              | 9,796,347                | 83,618,190               | 765,653           | 366,525                 | 7,887,925                                | 106,867,470          |
| 2013                    | 4,295,581                   | 236,739                              | 542,511                              | 10,521,418               | 87,586,817               | 764,751           | 387,470                 | 7,489,476                                | 111,824,763          |
| 2014                    | 4,109,292                   | 222,381                              | 722,260                              | 10,655,306               | 91,290,547               | 717,891           | 386,536                 | 7,008,250                                | 115,112,461          |
| 2015                    | 4,919,953                   | 290,075                              | 636,343                              | 14,123,818               | 105,862,166              | 943,644           | 485,721                 | 9,130,796                                | 136,392,517          |
| 2016                    | 4,856,494                   | 286,939                              | 648,512                              | 13,964,051               | 104,779,517              | 937,081           | 482,234                 | 9,015,916                                | 134,970,743          |
| 2017                    | 4,844,618                   | 286,323                              | 668,383                              | 13,733,820               | 104,295,929              | 934,976           | 480,574                 | 8,994,698                                | 134,239,321          |
| 2018                    | 4,715,106                   | 279,016                              | 651,403                              | 13,291,052               | 102,128,206              | 902,729           | 465,127                 | 8,758,498                                | 131,191,137          |
| 2019                    | 4,685,484                   | 282,552                              | 648,558                              | 13,450,797               | 103,139,135              | 913,009           | 472,794                 | 8,892,641                                | 132,484,971          |
| 2020                    | 4,360,233                   | 281,563                              | 652,431                              | 13,373,193               | 102,822,466              | 909,586           | 469,936                 | 8,851,106                                | 131,720,515          |
| 2021                    | 4,417,062                   | 285,481                              | 657,063                              | 13,518,752               | 104,018,054              | 921,595           | 476,915                 | 8,966,553                                | 133,261,474          |
| 2022                    | 4,376,508                   | 282,951                              | 662,240                              | 13,393,787               | 103,288,206              | 913,628           | 471,532                 | 8,884,118                                | 132,272,971          |
| 2023                    | 4,415,332                   | 285,524                              | 667,666                              | 13,504,665               | 104,151,929              | 921,582           | 475,883                 | 8,961,968                                | 133,384,549          |
| 2024                    | 4,353,834                   | 281,463                              | 673,057                              | 13,311,178               | 102,942,593              | 908,922           | 468,100                 | 8,836,008                                | 131,775,154          |
| 2025                    | 4,317,698                   | 279,582                              | 678,463                              | 13,212,148               | 102,262,484              | 902,935           | 464,000                 | 8,764,833                                | 130,882,144          |
| 2026                    | 4,300,610                   | 278,820                              | 684,225                              | 13,154,600               | 101,907,674              | 900,469           | 462,474                 | 8,731,425                                | 130,420,298          |
| 2027                    | 4,294,053                   | 277,723                              | 689,671                              | 13,132,132               | 101,991,381              | 897,124           | 459,408                 | 8,712,693                                | 130,454,185          |
| 2028                    | 4,324,237                   | 281,320                              | 693,387                              | 13,233,715               | 102,467,317              | 907,935           | 466,164                 | 8,783,319                                | 131,157,394          |
| 2029                    | 4,368,152                   | 283,855                              | 699,284                              | 13,358,230               | 103,497,171              | 915,822           | 470,235                 | 8,869,008                                | 132,461,758          |
| 2030                    | 3,909,787                   | 257,821                              | 705,269                              | 12,063,303               | 93,943,878               | 834,073           | 420,872                 | 7,964,545                                | 120,099,547          |
| 2031                    | 4,007,030                   | 264,509                              | 710,018                              | 12,366,193               | 96,141,605               | 854,425           | 431,765                 | 8,162,627                                | 122,938,172          |
| 2032                    | 3,933,121                   | 259,350                              | 716,407                              | 12,097,007               | 94,485,695               | 838,453           | 423,413                 | 8,009,562                                | 120,763,009          |
| 2033                    | 4,118,350                   | 272,128                              | 722,535                              | 12,691,025               | 98,505,917               | 877,967           | 445,246                 | 8,388,122                                | 126,021,290          |
| 2034                    | 3,979,388                   | 262,466                              | 728,446                              | 12,223,406               | 95,598,974               | 847,869           | 428,140                 | 8,101,576                                | 122,170,264          |
| 2035                    | 4,302,976                   | 284,819                              | 734,311                              | 13,271,858               | 102,612,687              | 916,981           | 466,466                 | 8,763,961                                | 131,354,059          |
| <b>TOTAL</b>            | <b>189,916,263</b>          | <b>10,825,365</b>                    | <b>26,438,900</b>                    | <b>497,939,393</b>       | <b>4,110,772,305</b>     | <b>29,330,298</b> | <b>17,672,046</b>       | <b>369,388,143</b>                       | <b>5,252,282,711</b> |

(a) Capital charges repaid through bond debt service prior to 2013 exclude bond cover, capital charges for 2014 and after include both bond debt service and bond cover.

**TABLE B-23 Total Transportation and Delta Water Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 3 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA                 |                           |                                 |   |                     |                                       |                     |                         |  |   |
|---------------|--|---------------------------|---------------------------------|---|---------------------|---------------------------------------|---------------------|-------------------------|--|---|
|               | Antelope Valley - East Kern Water Agency | Castaic Lake Water Agency | Coachella Valley Water District | Crestline - Lake Arrowhead Water Agency | Desert Water Agency | Little Rock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | San Gabriel Valley Municipal Water District |
|               | [20]                                     | [21]                      | [22]                            | [23]                                    | [24]                | [25]                                  | [26]                | [27]                    | [28]   | [29]  |
| 1961          | 0  | 0                         | 0                               | 0                                       | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1962          | 0  | 0                         | 0                               | 0                                       | 0                   | 0                                     | 0                   | 0                       | 0  | 0   |
| 1963          | 34,411                                   | 0                         | 0                               | 0                                       | 726                 | 0                                     | 0                   | 0                       | 51,729   | 0   |
| 1964          | 64,494                                   | 27,447                    | 19,542                          | 4,370                                   | 38,211              | 1,143                                 | 30,324              | 8,205                   | 82,811   | 34,987                                      |
| 1965          | 121,484                                  | 53,007                    | 34,348                          | 7,194                                   | 42,701              | 2,082                                 | 53,730              | 15,222                  | 135,069  | 35,344                                      |
| 1966          | 221,012                                  | 101,264                   | 62,476                          | 12,478                                  | 76,886              | 3,753                                 | 96,944              | 27,679                  | 232,502  | 61,465                                      |
| 1967          | 427,622                                  | 210,814                   | 121,269                         | 23,472                                  | 148,839             | 7,284                                 | 188,141             | 54,023                  | 433,350  | 115,574                                     |
| 1968          | 754,401                                  | 491,432                   | 218,649                         | 41,509                                  | 265,168             | 12,870                                | 335,901             | 95,466                  | 782,163  | 208,927                                     |
| 1969          | 1,090,136                                | 742,572                   | 334,105                         | 61,226                                  | 394,024             | 18,693                                | 500,020             | 138,063                 | 1,205,834                                      | 321,755                                     |
| 1970          | 1,420,639                                | 942,649                   | 470,423                         | 89,700                                  | 552,223             | 25,231                                | 691,405             | 184,837                 | 1,778,187                                      | 467,573                                     |
| 1971          | 1,760,670                                | 1,137,223                 | 627,331                         | 128,360                                 | 754,065             | 31,837                                | 930,568             | 231,280                 | 2,538,219                                      | 659,414                                     |
| 1972          | 2,245,384                                | 1,382,540                 | 819,635                         | 179,685                                 | 1,035,804           | 43,430                                | 1,260,538           | 287,620                 | 3,741,482                                      | 950,297                                     |
| 1973          | 2,399,515                                | 1,431,093                 | 965,166                         | 190,549                                 | 1,254,443           | 45,890                                | 1,355,314           | 313,446                 | 3,974,200                                      | 961,024                                     |
| 1974          | 2,520,352                                | 1,526,699                 | 993,985                         | 203,642                                 | 1,298,337           | 48,770                                | 1,415,581           | 331,702                 | 4,448,225                                      | 1,104,491                                   |
| 1975          | 2,737,867                                | 1,617,898                 | 1,044,902                       | 218,979                                 | 1,377,168           | 53,125                                | 1,503,512           | 355,270                 | 4,631,803                                      | 1,208,047                                   |
| 1976          | 3,199,620                                | 1,654,673                 | 1,103,708                       | 231,758                                 | 1,469,992           | 57,620                                | 1,580,767           | 381,276                 | 4,831,375                                      | 1,278,740                                   |
| 1977          | 3,182,178                                | 1,742,655                 | 1,008,676                       | 244,149                                 | 1,317,096           | 54,160                                | 1,668,976           | 406,620                 | 5,061,165                                      | 1,336,313                                   |
| 1978          | 3,626,133                                | 1,875,868                 | 1,205,609                       | 255,071                                 | 1,613,048           | 56,760                                | 1,717,068           | 420,026                 | 5,090,094                                      | 1,374,033                                   |
| 1979          | 4,296,348                                | 1,955,814                 | 1,292,485                       | 267,366                                 | 1,735,593           | 60,256                                | 1,892,040           | 449,757                 | 5,136,830                                      | 1,342,135                                   |
| 1980          | 4,994,298                                | 2,094,345                 | 1,406,781                       | 295,350                                 | 1,941,392           | 67,604                                | 2,066,402           | 499,051                 | 5,647,604                                      | 1,485,140                                   |
| 1981          | 5,824,304                                | 2,563,870                 | 1,574,217                       | 328,818                                 | 2,194,094           | 100,752                               | 2,389,635           | 603,265                 | 6,461,840                                      | 1,688,324                                   |
| 1982          | 5,582,860                                | 2,727,073                 | 1,657,630                       | 346,721                                 | 2,336,914           | 82,296                                | 2,363,184           | 641,991                 | 6,752,799                                      | 1,929,664                                   |
| 1983          | 6,335,170                                | 2,797,843                 | 2,181,785                       | 380,840                                 | 3,172,326           | 88,383                                | 2,560,813           | 658,613                 | 6,964,704                                      | 1,808,748                                   |
| 1984          | 7,713,111                                | 3,876,684                 | 3,287,286                       | 497,586                                 | 4,929,764           | 96,492                                | 2,828,370           | 727,821                 | 8,053,209                                      | 2,598,232                                   |
| 1985          | 9,545,818                                | 4,342,910                 | 4,122,839                       | 601,928                                 | 6,265,165           | 103,706                               | 3,019,459           | 959,657                 | 8,893,342                                      | 2,686,799                                   |
| 1986          | 9,515,134                                | 4,978,492                 | 4,584,188                       | 647,633                                 | 7,009,695           | 130,221                               | 3,203,781           | 1,223,847               | 9,142,822                                      | 3,398,539                                   |
| 1987          | 9,550,203                                | 4,836,132                 | 4,452,838                       | 678,086                                 | 6,885,935           | 240,872                               | 3,259,008           | 1,255,052               | 10,544,337                                     | 3,398,921                                   |
| 1988          | 9,149,230                                | 5,023,027                 | 4,510,360                       | 704,412                                 | 7,052,631           | 158,845                               | 3,433,785           | 1,404,206               | 11,095,194                                     | 3,271,137                                   |
| 1989          | 11,039,912                               | 5,032,460                 | 4,218,204                       | 691,191                                 | 6,635,388           | 210,635                               | 3,515,102           | 1,746,763               | 10,811,989                                     | 3,453,680                                   |
| 1990          | 12,432,751                               | 5,500,598                 | 4,916,383                       | 729,229                                 | 7,720,886           | 331,172                               | 3,748,642           | 1,953,905               | 11,722,947                                     | 4,221,266                                   |
| 1991          | 9,293,532                                | 4,614,361                 | 3,471,782                       | 688,867                                 | 5,335,009           | 221,166                               | 4,608,900           | 1,640,084               | 11,104,874                                     | 3,642,611                                   |
| 1992          | 11,850,715                               | 5,803,050                 | 3,626,099                       | 612,895                                 | 5,587,382           | 174,998                               | 5,587,519           | 1,532,325               | 11,144,101                                     | 3,694,099                                   |
| 1993          | 12,264,759                               | 5,449,713                 | 3,830,889                       | 617,198                                 | 5,922,476           | 211,904                               | 5,479,061           | 1,753,971               | 12,107,175                                     | 4,042,324                                   |
| 1994          | 14,334,329                               | 6,016,172                 | 3,857,907                       | 694,421                                 | 5,963,596           | 278,012                               | 6,430,761           | 2,090,725               | 12,731,705                                     | 4,776,753                                   |
| 1995          | 14,201,115                               | 6,391,819                 | 4,680,553                       | 681,811                                 | 7,318,575           | 212,244                               | 5,623,716           | 1,952,494               | 12,204,445                                     | 4,480,933                                   |
| 1996          | 14,628,006                               | 6,622,963                 | 7,634,302                       | 710,651                                 | 12,187,480          | 208,357                               | 5,722,083           | 2,300,206               | 12,730,932                                     | 4,599,073                                   |
| 1997          | 15,198,058                               | 6,516,617                 | 7,251,238                       | 750,418                                 | 8,515,791           | 207,887                               | 6,144,869           | 2,342,198               | 14,400,157                                     | 4,897,487                                   |
| 1998          | 13,714,014                               | 6,139,423                 | 6,324,675                       | 717,140                                 | 7,018,227           | 209,057                               | 7,747,889           | 1,946,444               | 14,309,132                                     | 4,177,167                                   |
| 1999          | 15,562,020                               | 6,735,796                 | 5,377,230                       | 826,782                                 | 7,205,669           | 215,608                               | 8,412,177           | 2,368,501               | 15,799,362                                     | 5,133,387                                   |
| 2000          | 14,733,125                               | 10,206,268                | 3,766,671                       | 791,354                                 | 5,542,843           | 186,686                               | 8,285,443           | 2,066,975               | 15,500,692                                     | 4,235,367                                   |
| 2001          | 24,967,356                               | 15,918,982                | 4,880,883                       | 997,863                                 | 7,636,567           | 199,182                               | 9,000,151           | 4,006,031               | 21,532,980                                     | 4,400,957                                   |
| 2002          | 16,401,461                               | 13,148,219                | 4,133,231                       | 961,219                                 | 6,403,065           | 182,287                               | 8,166,953           | 3,394,240               | 22,465,925                                     | 5,804,417                                   |
| 2003          | 17,749,327                               | 14,207,190                | 4,253,805                       | 931,527                                 | 6,600,208           | 187,490                               | 9,824,942           | 2,928,949               | 20,880,420                                     | 5,973,161                                   |
| 2004          | 18,917,868                               | 15,472,392                | 4,930,875                       | 1,043,438                               | 6,718,669           | 201,461                               | 10,102,347          | 3,213,911               | 25,422,620                                     | 5,471,257                                   |
| 2005          | 19,225,330                               | 14,426,177                | 18,578,343                      | 863,461                                 | 11,592,435          | 190,039                               | 9,838,843           | 3,248,721               | 23,379,608                                     | 5,706,831                                   |
| 2006          | 20,956,766                               | 13,762,656                | 31,822,283                      | 856,127                                 | 11,743,193          | 202,156                               | 12,702,003          | 3,212,368               | 23,351,039                                     | 5,795,955                                   |
| 2007          | 24,166,114                               | 16,798,844                | 30,538,934                      | 1,083,189                               | 11,107,932          | 201,022                               | 16,280,481          | 4,709,865               | 29,170,286                                     | 4,850,759                                   |
| 2008          | 22,092,570                               | 19,141,961                | 30,312,882                      | 1,033,585                               | 12,193,606          | 217,075                               | 14,905,579          | 4,690,347               | 29,919,756                                     | 5,938,471                                   |
| 2009          | 20,201,516                               | 17,095,154                | 28,171,763                      | 1,024,580                               | 10,146,837          | 222,150                               | 14,737,825          | 4,467,157               | 29,774,985                                     | 6,473,383                                   |
| 2010          | 24,006,097                               | 17,614,825                | 38,449,367                      | 980,878                                 | 13,663,361          | 228,293                               | 18,000,875          | 3,987,468               | 33,086,629                                     | 8,239,047                                   |
| 2011          | 30,834,761                               | 17,654,373                | 40,399,937                      | 1,062,130                               | 14,815,711          | 251,765                               | 11,923,972          | 4,026,497               | 30,687,585                                     | 9,028,828                                   |
| 2012          | 31,820,501                               | 19,767,559                | 47,864,294                      | 1,182,205                               | 17,569,714          | 286,549                               | 13,788,090          | 5,559,685               | 44,829,246                                     | 9,500,990                                   |
| 2013          | 27,973,637                               | 23,303,272                | 39,688,818                      | 1,452,821                               | 14,515,355          | 301,038                               | 14,362,548          | 4,792,831               | 36,465,808                                     | 7,907,096                                   |
| 2014          | 23,693,482                               | 24,832,849                | 34,579,622                      | 1,890,338                               | 12,412,484          | 341,522                               | 14,587,700          | 4,720,039               | 39,225,569                                     | 7,047,383                                   |
| 2015          | 38,109,483                               | 27,343,142                | 48,861,422                      | 2,091,827                               | 18,356,813          | 613,445                               | 25,385,537          | 5,590,363               | 47,538,602                                     | 10,319,246                                  |
| 2016          | 37,249,198                               | 27,019,245                | 49,356,713                      | 2,070,219                               | 18,083,510          | 603,317                               | 25,236,816          | 5,462,939               | 47,334,862                                     | 10,190,489                                  |
| 2017          | 37,597,076                               | 27,026,640                | 50,371,789                      | 2,069,120                               | 18,353,415          | 611,211                               | 25,407,286          | 5,518,891               | 47,388,983                                     | 10,271,207                                  |
| 2018          | 38,063,173                               | 27,094,254                | 51,289,915                      | 2,087,551                               | 18,584,966          | 618,276                               | 25,724,788          | 5,591,617               | 47,613,858                                     | 10,336,205                                  |
| 2019          | 36,348,863                               | 23,700,817                | 50,714,381                      | 2,024,029                               | 18,135,287          | 597,151                               | 26,745,907          | 5,397,888               | 46,561,823                                     | 10,036,046                                  |
| 2020          | 36,449,146                               | 23,681,347                | 51,040,200                      | 2,016,149                               | 18,142,997          | 597,708                               | 27,375,030          | 5,410,569               | 46,292,919                                     | 9,970,738                                   |
| 2021          | 36,378,366                               | 23,740,825                | 50,704,027                      | 1,992,067                               | 18,018,572          | 595,590                               | 27,272,421          | 5,397,034               | 45,866,366                                     | 9,865,302                                   |
| 2022          | 36,257,036                               | 23,702,091                | 49,938,248                      | 1,976,927                               | 17,854,730          | 593,485                               | 27,165,850          | 5,379,070               | 45,547,943                                     | 9,785,483                                   |
| 2023          | 36,471,192                               | 24,013,749                | 49,521,999                      | 1,987,190                               | 17,843,432          | 596,917                               | 27,332,354          | 5,411,577               | 45,664,093                                     | 9,813,448                                   |
| 2024          | 35,965,058                               | 23,805,936                | 48,951,593                      | 1,981,155                               | 17,619,712          | 588,750                               | 26,940,577          | 5,336,201               | 45,239,135                                     | 9,692,684                                   |
| 2025          | 35,926,351                               | 23,912,439                | 48,961,890                      | 1,985,286                               | 17,612,660          | 588,187                               | 26,962,583          | 5,332,959               | 45,198,621                                     | 9,678,549                                   |
| 2026          | 35,530,737                               | 23,785,143                | 48,495,206                      | 1,938,684                               | 17,419,748          | 581,806                               | 26,665,496          | 5,275,130               | 44,825,474                                     | 9,569,723                                   |
| 2027          | 36,011,066                               | 24,141,329                | 49,032,834                      | 1,964,682                               | 17,651,263          | 589,689                               | 27,027,911          | 5,345,170               | 45,338,336                                     | 9,704,161                                   |
| 2028          | 35,720,056                               | 24,043,926                | 48,773,549                      | 1,946,345                               | 17,508,546          | 585,027                               | 26,821,746          | 5,307,352               | 44,982,592                                     | 9,604,560                                   |
| 2029          | 36,146,031                               | 24,394,714                | 49,288,897                      | 1,969,111                               | 17,720,653          | 592,029                               | 27,127,294          | 5,369,819               | 45,456,814                                     | 9,728,377                                   |
| 2030          | 33,917,860                               | 22,813,686                | 47,197,519                      | 1,851,333                               | 16,747,678          | 555,903                               | 25,653,543          | 5,056,716               | 43,223,381                                     | 9,120,882                                   |
| 2031          | 35,398,923                               | 23,608,980                | 48,762,232                      | 1,916,867                               | 17,373,558          | 580,036                               | 26,695,495          | 5,280,465               | 44,415,636                                     | 9,449,059                                   |
| 2032          | 33,443,239                               | 22,770,871                | 46,857,313                      | 1,833,841                               | 16,598,278          | 548,301                               | 25,336,425          | 4,986,110               | 43,033,857                                     | 9,053,586                                   |
|               |  |                           |                                 |   |                     |                                       |                     |                         |  |   |

**TABLE B-23 Total Transportation and Delta Water Charge for Each Contractor<sup>a</sup>**

(in dollars)

Sheet 4 of 4

| Calendar Year | SOUTHERN CALIFORNIA AREA (continued) |  |  |             | FEATHER RIVER AREA |                 |                      |           | South Bay Area Future Contractor | GRAND TOTAL   |
|---------------|--------------------------------------|--|--|-------------|--------------------|-----------------|----------------------|-----------|----------------------------------|---------------|
|               | San Gorgonio Pass Water Agency       | The Metropolitan Water District of Southern California | Ventura County Watershed Protection District | Total       | City of Yuba City  | County of Butte | Plumas County FC&WCD | Total     |                                  |               |
|               | [30]                                 | [31]   | [32]   | [33]        | [34]               | [35]            | [36]                 | [37]      | [38]                             | [39]          |
| 1961          | 0                                    | 0  | 0  | 0           | 0                  | 0               | 0                    | 0         | 0                                | 0             |
| 1962          | 0                                    | 0  | 0  | 0           | 0                  | 0               | 0                    | 0         | 3,219                            | 79,888        |
| 1963          | 0                                    | 690,812  | 0  | 777,678     | 0                  | 0               | 0                    | 0         | 12,626                           | 1,628,026     |
| 1964          | 21,735                               | 1,260,513  | 9,378  | 1,603,161   | 0                  | 0               | 0                    | 0         | 13,938                           | 2,810,279     |
| 1965          | 21,866                               | 2,180,589  | 17,766                                       | 2,720,401   | 0                  | 0               | 405                  | 405       | 28,937                           | 4,815,355     |
| 1966          | 37,964                               | 3,900,172  | 33,426                                       | 4,868,023   | 0                  | 0               | 565                  | 565       | 31,321                           | 7,409,357     |
| 1967          | 71,283                               | 7,693,703  | 68,155                                       | 9,563,529   | 0                  | 0               | 562                  | 562       | 47,718                           | 13,086,788    |
| 1968          | 128,915                              | 15,317,881   | 142,803                                      | 18,796,086  | 0                  | 1,050           | 1,439                | 2,489     | 46,945                           | 25,616,744    |
| 1969          | 198,764                              | 23,153,064   | 215,209                                      | 28,373,466  | 0                  | 1,225           | 4,120                | 5,345     | 52,963                           | 37,028,228    |
| 1970          | 289,633                              | 30,617,164   | 273,605                                      | 37,803,268  | 0                  | 3,848           | 17,116               | 20,964    | 69,744                           | 48,562,799    |
| 1971          | 409,327                              | 39,958,997   | 342,425                                      | 49,509,717  | 0                  | 4,546           | 19,187               | 23,733    | 55,532                           | 61,755,402    |
| 1972          | 537,186                              | 54,896,379   | 422,304                                      | 67,802,286  | 0                  | 4,929           | 21,150               | 26,079    | 80,412                           | 83,911,256    |
| 1973          | 587,963                              | 59,450,695   | 435,655                                      | 73,364,953  | 0                  | 7,059           | 21,778               | 28,837    | 54,219                           | 88,773,662    |
| 1974          | 611,428                              | 65,819,846   | 455,565                                      | 80,778,622  | 0                  | 8,336           | 22,408               | 30,744    | 76,783                           | 97,730,089    |
| 1975          | 644,621                              | 71,630,821   | 478,403                                      | 87,502,415  | 0                  | 9,416           | 23,523               | 32,939    | 84,547                           | 106,649,034   |
| 1976          | 668,315                              | 74,675,280   | 475,587                                      | 91,608,712  | 0                  | 7,004           | 23,257               | 30,261    | 106,717                          | 112,543,094   |
| 1977          | 696,515                              | 73,158,031   | 507,063                                      | 90,383,597  | 0                  | 16,917          | 24,059               | 40,976    | 98,618                           | 111,190,719   |
| 1978          | 709,040                              | 81,722,902   | 523,177                                      | 100,188,228 | 0                  | 12,635          | 24,225               | 36,860    | 100,786                          | 124,201,912   |
| 1979          | 712,866                              | 83,375,703   | 526,405                                      | 103,043,599 | 0                  | 16,575          | 28,352               | 44,927    | 119,352                          | 130,222,248   |
| 1980          | 862,275                              | 93,029,351   | 583,628                                      | 114,973,223 | 0                  | 19,834          | 26,562               | 46,396    | 178,812                          | 144,909,928   |
| 1981          | 946,961                              | 112,171,493  | 672,540                                      | 137,520,112 | 0                  | 21,682          | 34,563               | 56,245    | 185,347                          | 175,483,550   |
| 1982          | 1,021,329                            | 117,143,300  | 727,623                                      | 143,313,385 | 0                  | 16,117          | 43,117               | 59,234    | 173,894                          | 184,551,230   |
| 1983          | 1,076,279                            | 118,991,007  | 854,263                                      | 147,870,774 | 0                  | 15,202          | 29,410               | 44,612    | 220,926                          | 186,209,726   |
| 1984          | 1,211,621                            | 156,273,535  | 933,311                                      | 193,027,022 | 20,590             | 15,442          | 31,795               | 67,827    | 225,959                          | 245,665,097   |
| 1985          | 1,287,789                            | 195,493,271  | 993,651                                      | 238,316,332 | 24,050             | 16,976          | 32,405               | 73,431    | 340,322                          | 302,094,483   |
| 1986          | 1,344,770                            | 218,331,684  | 1,058,276                                    | 264,569,083 | 31,753             | 18,145          | 33,596               | 83,494    | 279,227                          | 334,507,603   |
| 1987          | 1,379,613                            | 204,859,482  | 1,056,318                                    | 252,396,798 | 37,071             | 17,794          | 33,384               | 88,249    | 345,116                          | 324,607,697   |
| 1988          | 1,465,829                            | 221,667,115  | 1,124,102                                    | 269,699,871 | 48,058             | 19,117          | 33,605               | 100,780   | 365,207                          | 346,402,387   |
| 1989          | 1,505,481                            | 230,328,277  | 1,232,379                                    | 280,421,461 | 61,184             | 20,809          | 37,188               | 119,181   | 422,329                          | 361,301,829   |
| 1990          | 1,624,763                            | 277,194,766  | 1,855,991                                    | 333,953,299 | 66,041             | 20,855          | 36,812               | 123,708   | 474,284                          | 415,658,544   |
| 1991          | 1,720,878                            | 221,887,061  | 1,549,955                                    | 269,779,079 | 180,212            | 22,526          | 42,200               | 244,938   | 214,683                          | 339,769,285   |
| 1992          | 1,779,902                            | 245,365,618  | 1,503,480                                    | 298,262,184 | 208,216            | 26,028          | 43,517               | 277,761   | 443,676                          | 384,810,920   |
| 1993          | 1,943,336                            | 219,238,180  | 1,551,253                                    | 274,412,240 | 209,613            | 26,203          | 47,588               | 283,404   | 599,571                          | 370,782,787   |
| 1994          | 1,920,217                            | 257,365,883  | 1,475,069                                    | 317,935,551 | 201,284            | 25,161          | 46,079               | 272,524   | 609,966                          | 412,890,822   |
| 1995          | 1,982,808                            | 225,863,369  | 1,568,401                                    | 287,142,281 | 216,945            | 27,118          | 50,022               | 294,085   | 534,971                          | 395,342,661   |
| 1996          | 1,651,239                            | 235,410,311  | 1,622,641                                    | 306,028,246 | 217,250            | 27,155          | 56,622               | 301,027   | 571,857                          | 424,097,729   |
| 1997          | 1,758,607                            | 245,453,566  | 1,777,266                                    | 315,214,159 | 236,300            | 29,847          | 59,915               | 326,062   | 428,638                          | 439,011,010   |
| 1998          | 1,947,195                            | 227,090,227  | 1,796,534                                    | 293,137,124 | 128,021            | 29,927          | 36,222               | 194,170   | 465,095                          | 416,918,419   |
| 1999          | 2,267,918                            | 256,513,586  | 1,879,946                                    | 328,297,983 | 254,675            | 31,834          | 40,585               | 327,094   | 584,116                          | 465,362,348   |
| 2000          | 2,540,961                            | 251,052,784  | 1,962,049                                    | 320,871,219 | 262,163            | 79,001          | 43,704               | 384,868   | 0                                | 450,816,574   |
| 2001          | 3,485,450                            | 443,890,289  | 2,264,348                                    | 543,181,041 | 261,699            | 93,471          | 45,056               | 400,226   | 0                                | 691,519,200   |
| 2002          | 4,834,837                            | 333,568,548  | 2,304,992                                    | 421,769,394 | 266,107            | 95,018          | 47,297               | 408,422   | 0                                | 569,266,892   |
| 2003          | 6,119,762                            | 361,766,751  | 2,322,370                                    | 453,745,901 | 262,547            | 93,638          | 68,957               | 425,142   | 0                                | 600,539,790   |
| 2004          | 6,478,520                            | 412,858,085  | 2,607,272                                    | 513,438,716 | 284,387            | 102,404         | 29,286               | 416,077   | 0                                | 662,246,120   |
| 2005          | 6,759,424                            | 383,975,296  | 2,081,415                                    | 499,865,922 | 280,033            | 727,066         | 28,810               | 1,035,909 | 0                                | 660,479,024   |
| 2006          | 7,273,261                            | 360,984,128  | 2,050,919                                    | 494,712,854 | 292,991            | 43,185          | 38,579               | 374,755   | 0                                | 650,291,135   |
| 2007          | 7,900,142                            | 439,578,529  | 2,537,009                                    | 588,923,106 | 291,100            | 40,957          | 46,070               | 378,127   | 0                                | 744,973,620   |
| 2008          | 9,660,998                            | 413,818,173  | 3,006,456                                    | 566,931,459 | 306,916            | 804,536         | 86,478               | 1,197,930 | 0                                | 730,116,023   |
| 2009          | 9,762,305                            | 381,014,356  | 2,867,453                                    | 525,959,464 | 328,896            | 855,850         | 90,621               | 1,275,367 | 0                                | 685,836,996   |
| 2010          | 10,981,608                           | 443,700,071  | 3,055,185                                    | 615,993,704 | 400,358            | 1,064,565       | 108,862              | 1,573,785 | 0                                | 799,887,246   |
| 2011          | 11,826,233                           | 493,222,886  | 3,129,352                                    | 668,864,030 | 451,483            | 1,197,315       | 121,974              | 1,770,772 | 0                                | 880,273,378   |
| 2012          | 12,902,904                           | 490,975,189  | 3,451,070                                    | 699,479,996 | 460,139            | 1,318,107       | 130,899              | 1,909,145 | 0                                | 909,672,353   |
| 2013          | 13,738,762                           | 495,708,427  | 3,518,696                                    | 683,729,110 | 483,119            | 1,383,934       | 141,301              | 2,008,354 | 0                                | 904,214,922   |
| 2014          | 16,845,810                           | 475,962,318  | 3,293,735                                    | 659,432,852 | 500,727            | 1,434,375       | 151,064              | 2,086,166 | 0                                | 886,314,543   |
| 2015          | 18,021,787                           | 594,434,428  | 3,950,075                                    | 840,616,171 | 602,896            | 1,727,045       | 187,654              | 2,517,595 | 0                                | 1,102,848,673 |
| 2016          | 18,082,566                           | 586,481,194  | 3,910,381                                    | 831,081,450 | 603,533            | 1,728,871       | 193,033              | 2,525,437 | 0                                | 1,093,120,000 |
| 2017          | 18,140,499                           | 587,647,279  | 3,888,518                                    | 834,291,914 | 602,513            | 1,725,947       | 192,636              | 2,521,096 | 0                                | 1,094,068,803 |
| 2018          | 18,178,206                           | 589,887,330  | 3,823,600                                    | 838,893,728 | 594,519            | 1,703,049       | 189,598              | 2,487,166 | 0                                | 1,093,650,206 |
| 2019          | 18,002,652                           | 571,159,065  | 4,828,513                                    | 814,252,424 | 598,578            | 1,714,676       | 188,515              | 2,501,769 | 0                                | 1,070,422,065 |
| 2020          | 17,975,786                           | 569,916,051  | 4,810,803                                    | 813,679,443 | 594,160            | 1,702,021       | 174,909              | 2,471,090 | 0                                | 1,068,722,404 |
| 2021          | 17,929,360                           | 566,136,079  | 4,780,848                                    | 808,676,856 | 593,971            | 1,701,480       | 174,013              | 2,469,464 | 0                                | 1,065,946,923 |
| 2022          | 17,893,212                           | 560,534,561  | 4,740,558                                    | 801,370,031 | 591,295            | 1,693,812       | 171,612              | 2,456,719 | 0                                | 1,057,413,901 |
| 2023          | 17,919,974                           | 562,936,497  | 4,771,824                                    | 804,284,245 | 591,932            | 1,695,637       | 171,855              | 2,459,424 | 0                                | 1,061,951,511 |
| 2024          | 17,858,789                           | 553,947,567  | 4,699,864                                    | 792,607,020 | 589,938            | 1,689,925       | 171,098              | 2,450,961 | 0                                | 1,048,350,415 |
| 2025          | 17,856,811                           | 553,103,697  | 4,692,467                                    | 791,785,500 | 584,351            | 1,673,922       | 168,975              | 2,427,248 | 0                                | 1,046,103,289 |
| 2026          | 17,806,950                           | 546,811,590  | 4,646,315                                    | 783,352,003 | 580,453            | 1,662,754       | 167,494              | 2,410,701 | 0                                | 1,037,065,584 |
| 2027          | 17,905,067                           | 554,140,900  | 4,704,272                                    | 793,556,681 | 585,545            | 1,677,342       | 169,429              | 2,432,316 | 0                                | 1,047,969,192 |
| 2028          | 17,859,074                           | 548,190,195  | 4,652,440                                    | 785,995,407 | 572,435            | 1,639,787       | 164,447              | 2,376,669 | 0                                | 1,040,464,052 |
| 2029          | 17,950,172                           | 554,478,856  | 4,698,567                                    | 794,921,334 | 576,357            | 1,651,022       | 165,937              | 2,393,316 | 0                                | 1,051,593,954 |
| 2030          | 17,595,307                           | 515,417,876  | 4,360,730                                    | 743,512,415 | 527,827            | 1,512,003       | 147,497              | 2,187,327 | 0                                | 980,884,447   |
| 2031          | 17,808,763                           | 532,761,323  | 4,478,669                                    | 768,530,007 | 527,832            | 1,512,016       | 147,500              | 2,187,348 | 0                                | 1,009,558,819 |
| 2032          | 17,588,161                           | 508,270,991  | 4,291,392                                    | 734,612,365 | 527,833            | 1,512,020       | 147,501              | 2,187,354 | 0                                | 973,354,266   |
| 2033          | 17,901,372                           | 537,357,467  | 4,511,027                                    | 775,652,647 | 527,837            | 1,512,031       | 147,504              | 2,187,372 | 0                                | 1,021,058,192 |
| 2034          | 17,667,982                           | 512,302,482  | 4,318,628                                    | 740,604,773 | 527,830            | 1,512,011       | 147,502              | 2,187,343 | 0                                | 981,438,154   |
| 2035          | 18,241,452                           | 565,597,982  | 4,712,577                                    | 816,128,531 | 527,832            | 1,512,016       | 147,503              | 2,187,351 | 0                                | 1,068,152,266 |
| <b>TOTAL</b>  | <b>544,341,151</b>                   | <b>22,622,762,874</b>                                  | <b>165,46</b>                                |             |                    |                 |                      |           |                                  |               |

**TABLE B-24 Equivalent Unit Charge for Water Supply for Each Contractor<sup>a</sup>**

| Project Service Area and Water Supply Contractor                     | (in dollars per acre-foot) |                         |                        |                          |          | Delta Water Charge | Water System Revenue Bond Surcharge | Total Equivalent Unit Charge |  |  |  |
|--|----------------------------|-------------------------|------------------------|--------------------------|----------|--------------------|-------------------------------------|------------------------------|--|--|--|
|  | Transportation Charge      |                         |                        |                          |          |                    |                                     |                              |  |  |  |
|  | Capital Cost Component     | Minimum OMP&R Component | Off-Aqueduct Component | Variable OMP&R Component | Total    |                    |                                     |                              |  |  |  |
| FEATHER RIVER AREA   | [1]                        | [2]                     | [3]                    | [4]                      | [5]      | [6]                | [7]                                 | [8]                          |  |  |  |
| City of Yuba City  | 0.00                       | 0.00                    | 0.00                   | 0.00                     | 0.00     | 121.85             | 13.33                               | 135.18                       |  |  |  |
| County of Butte  | 0.00                       | 0.00                    | 0.00                   | 0.00                     | 0.00     | 419.11             | 40.44                               | 459.55                       |  |  |  |
| Plumas County Flood Control and Water Conservation District          | 36.41                      | 4.02                    | 0.00                   | 0.00                     | 40.43    | 64.45              | 9.24                                | 114.12                       |  |  |  |
| Feather River Area   | 8.33                       | 0.92                    | 0.00                   | 0.00                     | 9.25     | 186.95             | 19.53                               | 215.73                       |  |  |  |
| NORTH BAY AREA   |                            |                         |                        |                          |          |                    |                                     |                              |  |  |  |
| Napa County Flood Control and Water Conservation District            | 175.03                     | 73.53                   | 4.84                   | 17.05                    | 270.45   | 38.64              | 16.78                               | 325.86                       |  |  |  |
| Solano County Water Agency   | 103.85                     | 70.59                   | 5.30                   | 10.22                    | 189.95   | 44.92              | 13.39                               | 248.27                       |  |  |  |
| North Bay Area   | 130.42                     | 71.68                   | 5.13                   | 12.77                    | 220.00   | 42.57              | 14.66                               | 277.23                       |  |  |  |
| SOUTH BAY AREA   |                            |                         |                        |                          |          |                    |                                     |                              |  |  |  |
| Alameda County Flood Control and Water Conservation District, Zone 7 | 50.48                      | 58.21                   | 9.18                   | 21.94                    | 139.81   | 41.77              | 9.59                                | 191.17                       |  |  |  |
| Alameda County Water District  | 30.29                      | 34.36                   | 7.49                   | 14.27                    | 86.42    | 29.65              | 5.07                                | 121.14                       |  |  |  |
| Santa Clara Valley Water District                                    | 24.75                      | 25.48                   | 6.64                   | 11.40                    | 68.27    | 19.42              | 3.45                                | 91.14                        |  |  |  |
| South Bay Area   | 29.91                      | 32.35                   | 7.20                   | 13.61                    | 83.07    | 24.79              | 4.73                                | 112.58                       |  |  |  |
| SAN JOAQUIN VALLEY AREA  |                            |                         |                        |                          |          |                    |                                     |                              |  |  |  |
| County of Kings  | 6.20                       | 9.62                    | 3.81                   | 8.29                     | 27.92    | 33.75              | 3.94                                | 65.61                        |  |  |  |
| Dudley Ridge Water District  | 5.44                       | 6.08                    | 3.37                   | 4.87                     | 19.75    | 19.92              | 2.25                                | 41.93                        |  |  |  |
| Empire West Side Irrigation District                                 | 2.20                       | 5.63                    | 2.54                   | 4.61                     | 14.98    | 22.30              | 1.84                                | 39.12                        |  |  |  |
| Kern County Water Agency   | 9.90                       | 11.96                   | 5.12                   | 6.95                     | 33.92    | 24.57              | 2.94                                | 61.44                        |  |  |  |
| Oak Flat Water District  | 2.20                       | 3.06                    | 2.04                   | 3.12                     | 10.42    | 20.93              | 1.85                                | 33.20                        |  |  |  |
| Tulare Lake Basin Water Storage District                             | 5.57                       | 6.13                    | 3.26                   | 4.81                     | 19.77    | 20.71              | 2.29                                | 42.77                        |  |  |  |
| San Joaquin Valley Area  | 9.15                       | 10.98                   | 4.81                   | 6.59                     | 31.52    | 23.94              | 2.84                                | 58.30                        |  |  |  |
| CENTRAL COASTAL AREA   |                            |                         |                        |                          |          |                    |                                     |                              |  |  |  |
| San Luis Obispo County Flood Control and Water Conservation District | 393.13                     | 274.43                  | 13.82                  | 124.93                   | 806.31   | 179.27             | 47.74                               | 1,033.32                     |  |  |  |
| Santa Barbara County Flood Control and Water Conservation District   | 1131.99                    | 313.93                  | 21.04                  | 103.48                   | 1,570.44 | 97.59              | 80.26                               | 1,748.29                     |  |  |  |
| Central Coastal Area   | 963.63                     | 304.93                  | 19.39                  | 108.37                   | 1,396.33 | 116.20             | 72.85                               | 1,585.38                     |  |  |  |
| SOUTHERN CALIFORNIA AREA   |                            |                         |                        |                          |          |                    |                                     |                              |  |  |  |
| Antelope Valley-East Kern Water Agency                               | 56.53                      | 59.13                   | 33.11                  | 70.55                    | 219.31   | 51.14              | 9.93                                | 280.38                       |  |  |  |
| Castaic Lake Water Agency  | 60.35                      | 64.38                   | 25.83                  | 43.92                    | 194.48   | 44.56              | 12.78                               | 251.81                       |  |  |  |
| Coachella Valley Water District                                      | 82.55                      | 99.16                   | 43.96                  | 81.86                    | 307.53   | 46.56              | 11.60                               | 365.69                       |  |  |  |
| Crestline-Lake Arrowhead Water Agency                                | 156.39                     | 153.63                  | 34.68                  | 88.45                    | 433.15   | 74.67              | 20.50                               | 528.32                       |  |  |  |
| Desert Water Agency  | 52.89                      | 58.09                   | 52.87                  | 46.41                    | 210.26   | 30.52              | 7.50                                | 248.28                       |  |  |  |
| Littlerock Creek Irrigation District                                 | 93.85                      | 98.52                   | 30.16                  | 73.41                    | 295.94   | 82.80              | 15.81                               | 394.55                       |  |  |  |
| Mojave Water Agency  | 162.51                     | 196.55                  | 30.04                  | 152.75                   | 541.84   | 123.64             | 30.29                               | 695.77                       |  |  |  |
| Palmdale Water District  | 65.58                      | 73.09                   | 44.05                  | 96.63                    | 279.34   | 66.97              | 11.82                               | 358.13                       |  |  |  |
| San Bernardino Valley Municipal Water District                       | 266.40                     | 215.68                  | 31.37                  | 84.00                    | 597.45   | 88.13              | 25.73                               | 711.32                       |  |  |  |
| San Gabriel Valley Municipal Water District                          | 122.01                     | 121.89                  | 48.22                  | 52.90                    | 345.02   | 55.70              | 15.54                               | 416.26                       |  |  |  |
| San Gorgonio Pass Water Agency                                       | 1396.03                    | 597.28                  | 36.64                  | 256.89                   | 2,286.83 | 144.11             | 43.57                               | 2,474.51                     |  |  |  |
| The Metropolitan Water District of Southern California               | 90.54                      | 78.63                   | 39.72                  | 47.02                    | 255.91   | 46.06              | 12.01                               | 313.98                       |  |  |  |
| Ventura County Watershed Protection District                         | 361.49                     | 319.75                  | 27.91                  | 126.64                   | 835.79   | 201.95             | 53.20                               | 1,090.95                     |  |  |  |
| Southern California Area   | 94.30                      | 83.44                   | 39.22                  | 51.98                    | 268.92   | 48.32              | 12.47                               | 329.72                       |  |  |  |
| ALL AREAS  | 54.73                      | 47.38                   | 20.65                  | 28.21                    | 150.97   | 35.82              | 7.79                                | 194.58                       |  |  |  |

(a) Hypothetical charges, which, if assessed on all Table A water delivered to date, all surplus water delivered prior to May 1, 1973, and all Table A water estimated to be delivered during the remainder of the project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charge and Delta Water Charge payments required under a water supply contract, considering interest at the Project Interest Rate, 4.610 percent per annum.

**TABLE B-25 Equivalent Unit Transportation Costs of Water Delivered from or through Each Aqueduct Reach<sup>a</sup>**

(in dollars per acre-foot)

| Aqueduct Reach | Unit Costs of Reach (b) |   |               |                    |                |        | Cumulative Unit Costs from the Delta |   |               |                    |                |        |
|----------------|-------------------------|---|---------------|--------------------|----------------|--------|--------------------------------------|---|---------------|--------------------|----------------|--------|
|                | Capital Costs           | Water System Revenue Bond Surcharge (c) | Minimum OMP&R | Off-Aqueduct Costs | Variable OMP&R | Total  | Capital Costs                        | Water System Revenue Bond Surcharge (c) | Minimum OMP&R | Off-Aqueduct Costs | Variable OMP&R | Total  |
| NBA            | [1]                     | [2]                                     | [3]           | [4]                | [5]            | [6]    | [7]                                  | [8]                                     | [9]           | [10]               | [11]           | [12]   |
| 1              | 44.80                   | 20.43                                   | 17.29         | 2.49               | 1.53           | 86.54  | 44.80                                | 20.43                                   | 17.29         | 2.49               | 1.53           | 86.54  |
| 2              | 47.68                   | 21.74                                   | 7.56          | 0.00               | 0.00           | 76.98  | 92.48                                | 42.17                                   | 24.85         | 2.49               | 1.53           | 163.52 |
| 3A             | 8.50                    | 3.88                                    | 15.03         | 5.10               | 2.47           | 34.98  | 100.98                               | 46.05                                   | 39.88         | 7.59               | 4.00           | 198.50 |
| 3B             | 54.67                   | 24.93                                   | 33.98         | 3.77               | 5.48           | 122.83 | 147.15                               | 67.10                                   | 58.83         | 6.26               | 7.01           | 286.35 |
| SBA            |                         |   |               |                    |                |        |                                      |   |               |                    |                |        |
| 1              | 7.83                    | 3.57                                    | 20.27         | 5.58               | 5.72           | 42.97  | 10.02                                | 4.57                                    | 24.26         | 8.31               | 8.39           | 55.55  |
| 2              | 0.74                    | 0.34                                    | 2.29          | 0.00               | 0.00           | 3.37   | 10.76                                | 4.91                                    | 26.55         | 8.31               | 8.39           | 58.92  |
| 4              | 2.46                    | 1.12                                    | 3.90          | 0.00               | 0.00           | 7.48   | 13.22                                | 6.03                                    | 30.45         | 8.31               | 8.39           | 66.40  |
| 5              | 5.17                    | 2.36                                    | 3.06          | 0.00               | 0.00           | 10.59  | 18.39                                | 8.39                                    | 33.51         | 8.31               | 8.39           | 76.99  |
| 6              | 0.30                    | 0.14                                    | 0.32          | 0.00               | 0.00           | 0.76   | 18.69                                | 8.53                                    | 33.83         | 8.31               | 8.39           | 77.75  |
| 7              | 2.29                    | 1.04                                    | 0.59          | 0.00               | 0.00           | 3.92   | 20.98                                | 9.57                                    | 34.42         | 8.31               | 8.39           | 81.67  |
| 8              | 3.11                    | 1.42                                    | 0.98          | 0.00               | 0.00           | 5.51   | 24.09                                | 10.99                                   | 35.40         | 8.31               | 8.39           | 87.18  |
| 9              | 6.42                    | 2.93                                    | 3.68          | 0.00               | 0.00           | 13.03  | 30.51                                | 13.92                                   | 39.08         | 8.31               | 8.39           | 100.21 |
| CA             |                         |   |               |                    |                |        |                                      |   |               |                    |                |        |
| 1              | 2.19                    | 1.00                                    | 3.99          | 2.73               | 2.67           | 12.58  | 2.19                                 | 1.00                                    | 3.99          | 2.73               | 2.67           | 12.58  |
| 2A             | 1.39                    | 0.63                                    | 0.79          | 0.00               | 0.00           | 2.81   | 3.58                                 | 1.63                                    | 4.78          | 2.73               | 2.67           | 15.39  |
| 2B             | 0.71                    | 0.32                                    | 0.39          | 0.00               | 0.00           | 1.42   | 4.29                                 | 1.95                                    | 5.17          | 2.73               | 2.67           | 16.81  |
| 3              | 0.62                    | 0.28                                    | 0.29          | 0.00               | 0.00           | 1.19   | 4.91                                 | 2.23                                    | 5.46          | 2.73               | 2.67           | 18.00  |
| 4              | 0.99                    | 0.45                                    | 1.98          | 1.30               | 1.21           | 5.93   | 5.90                                 | 2.68                                    | 7.44          | 4.03               | 3.88           | 23.93  |
| 5              | 0.76                    | 0.35                                    | 0.39          | 0.00               | 0.00           | 1.50   | 6.66                                 | 3.03                                    | 7.83          | 4.03               | 3.88           | 25.43  |
| 6              | 0.20                    | 0.09                                    | 0.20          | 0.00               | 0.00           | 0.49   | 6.86                                 | 3.12                                    | 8.03          | 4.03               | 3.88           | 25.92  |
| 7              | 1.14                    | 0.52                                    | 0.48          | 0.00               | 0.00           | 2.14   | 8.00                                 | 3.64                                    | 8.51          | 4.03               | 3.88           | 28.06  |
| 8C             | 0.02                    | 0.01                                    | 0.08          | 0.00               | 0.00           | 0.11   | 8.02                                 | 3.65                                    | 8.59          | 4.03               | 3.88           | 28.17  |
| 8D             | 0.44                    | 0.20                                    | 0.38          | 0.00               | 0.00           | 1.02   | 8.46                                 | 3.85                                    | 8.97          | 4.03               | 3.88           | 29.19  |
| 9              | 0.37                    | 0.17                                    | 0.35          | 0.00               | 0.00           | 0.89   | 8.83                                 | 4.02                                    | 9.32          | 4.03               | 3.88           | 30.08  |
| 10A            | 0.39                    | 0.18                                    | 0.46          | 0.00               | 0.00           | 1.03   | 9.22                                 | 4.20                                    | 9.78          | 4.03               | 3.88           | 31.11  |
| 11B            | 0.58                    | 0.26                                    | 0.29          | 0.00               | 0.00           | 1.13   | 9.80                                 | 4.46                                    | 10.07         | 4.03               | 3.88           | 32.24  |
| 12D            | 0.54                    | 0.25                                    | 0.27          | 0.00               | 0.00           | 1.06   | 10.34                                | 4.71                                    | 10.34         | 4.03               | 3.88           | 33.30  |
| 12E            | 0.38                    | 0.17                                    | 0.45          | 0.00               | 0.00           | 1.00   | 10.72                                | 4.88                                    | 10.79         | 4.03               | 3.88           | 34.30  |
| 13B            | 0.82                    | 0.37                                    | 0.52          | 0.00               | 0.00           | 1.71   | 11.54                                | 5.25                                    | 11.31         | 4.03               | 3.88           | 36.01  |
| 14A            | 3.15                    | 1.44                                    | 4.00          | 2.29               | 2.27           | 13.15  | 14.69                                | 6.69                                    | 15.31         | 6.32               | 6.15           | 49.16  |
| 14B            | 0.50                    | 0.23                                    | 0.49          | 0.00               | 0.00           | 1.22   | 15.19                                | 6.92                                    | 15.80         | 6.32               | 6.15           | 50.38  |
| 14C            | 0.41                    | 0.19                                    | 0.37          | 0.00               | 0.00           | 0.97   | 15.60                                | 7.11                                    | 16.17         | 6.32               | 6.15           | 51.35  |
| 15A            | 2.34                    | 1.07                                    | 4.17          | 2.79               | 2.47           | 12.84  | 17.94                                | 8.18                                    | 20.34         | 9.11               | 8.62           | 64.19  |
| 16A            | 3.87                    | 1.76                                    | 6.46          | 6.05               | 5.76           | 23.90  | 21.81                                | 9.94                                    | 26.80         | 15.16              | 14.38          | 88.09  |
| 17E            | 13.06                   | 5.96                                    | 18.15         | 21.17              | 21.28          | 79.62  | 34.87                                | 15.90                                   | 44.95         | 36.33              | 35.66          | 167.71 |
| 17F            | 3.38                    | 1.54                                    | 0.22          | 0.00               | 0.00           | 5.14   | 38.25                                | 17.44                                   | 45.17         | 36.33              | 35.66          | 172.85 |
| 18A            | 3.04                    | 1.39                                    | 2.18          | 0.00               | -2.24          | 4.37   | 41.29                                | 18.83                                   | 47.35         | 36.33              | 33.42          | 177.22 |
| 19             | 2.25                    | 1.03                                    | 1.32          | 0.00               | 0.00           | 4.60   | 43.54                                | 19.86                                   | 48.67         | 36.33              | 33.42          | 181.82 |
| 19C            | 2.44                    | 1.11                                    | 0.00          | 0.00               | 0.00           | 3.55   | 45.98                                | 20.97                                   | 48.67         | 36.33              | 33.42          | 185.37 |
| 20A            | 1.78                    | 0.81                                    | 2.18          | 0.00               | 0.00           | 4.77   | 47.76                                | 21.78                                   | 50.85         | 36.33              | 33.42          | 190.14 |
| 20B            | 2.16                    | 0.98                                    | 1.43          | 0.00               | 0.00           | 4.57   | 49.92                                | 22.76                                   | 52.28         | 0.00               | 33.42          | 158.38 |
| 21             | 1.09                    | 0.50                                    | 1.00          | 0.00               | 0.00           | 2.59   | 51.01                                | 23.26                                   | 53.28         | 0.00               | 33.42          | 160.97 |
| 22A            | 1.14                    | 0.52                                    | 0.52          | 0.00               | 0.00           | 2.18   | 52.15                                | 23.78                                   | 53.80         | 0.00               | 33.42          | 163.15 |
| 22B            | 11.19                   | 5.10                                    | 14.05         | 6.43               | 7.02           | 43.79  | 63.34                                | 28.88                                   | 67.85         | 6.43               | 40.44          | 206.94 |
| 23             | 3.07                    | 1.40                                    | 0.97          | 0.00               | -2.85          | 2.59   | 66.41                                | 30.28                                   | 68.82         | 6.43               | 37.59          | 209.53 |
| 24             | 5.96                    | 2.72                                    | 2.72          | 0.00               | 0.00           | 11.40  | 72.37                                | 33.00                                   | 71.54         | 6.43               | 37.59          | 220.93 |
| 25             | 4.35                    | 1.98                                    | 0.15          | 0.00               | 0.00           | 6.48   | 76.72                                | 34.98                                   | 71.69         | 6.43               | 37.59          | 227.41 |
| 26A            | 4.76                    | 2.17                                    | 9.10          | 0.00               | -19.46         | (3.43) | 81.48                                | 37.15                                   | 80.79         | 6.43               | 18.13          | 223.98 |
| 28G            | 8.85                    | 4.04                                    | 3.44          | 0.00               | 0.00           | 16.33  | 90.33                                | 41.19                                   | 84.23         | 6.43               | 18.13          | 240.31 |
| 28H            | 8.52                    | 3.88                                    | 3.61          | 0.00               | 0.00           | 16.01  | 98.85                                | 45.07                                   | 87.84         | 6.43               | 18.13          | 256.32 |
| 28J            | 95.57                   | 43.58                                   | 50.19         | 0.00               | 0.00           | 189.34 | 194.42                               | 88.65                                   | 138.03        | 6.43               | 18.13          | 445.66 |
| EBX            |                         |   |               |                    |                |        |                                      |   |               |                    |                |        |
| 1              | N/A                     | 0.00                                    | 0.22          | 0.00               | 0.00           | 0.22   | N/A                                  | 37.15                                   | 81.01         | 6.43               | 18.13          | 142.72 |
| 2A             | N/A                     | 0.00                                    | 1.56          | 0.00               | 0.00           | 1.56   | N/A                                  | 37.15                                   | 82.56         | 6.43               | 18.13          | 144.27 |
| 2B             | N/A                     | 0.00                                    | 66.59         | 7.80               | 31.93          | 106.32 | N/A                                  | 37.15                                   | 149.15        | 14.23              | 50.06          | 250.59 |
| 2C             | N/A                     | 0.00                                    | 4.81          | 0.00               | 0.00           | 4.81   | N/A                                  | 37.15                                   | 153.96        | 14.23              | 50.06          | 255.40 |
| 2D             | N/A                     | 0.00                                    | 0.00          | 0.00               | 0.00           | 0.00   | N/A                                  | 37.15                                   | 153.96        | 14.23              | 50.06          | 255.40 |
| 2E             | N/A                     | 0.00                                    | 0.00          | 0.00               | 0.00           | 0.00   | N/A                                  | 37.15                                   | 153.96        | 14.23              | 50.06          | 255.40 |
| 3A             | N/A                     | 0.00                                    | 121.57        | 9.35               | 42.20          | 173.12 | N/A                                  | 37.15                                   | 275.53        | 23.58              | 92.26          | 428.52 |
| 3B             | N/A                     | 0.00                                    | 2.67          | 0.00               | 0.00           | 2.67   | N/A                                  | 37.15                                   | 278.20        | 23.58              | 92.26          | 431.19 |
| 4A             | N/A                     | 0.00                                    | 6.94          | 0.00               | 0.00           | 6.94   | N/A                                  | 37.15                                   | 285.14        | 23.58              | 92.26          | 438.13 |
| 4B             | N/A                     | 0.00                                    | 46.68         | 1.10               | 10.78          | 58.56  | N/A                                  | 37.15                                   | 331.82        | 24.68              | 103.04         | 496.69 |
| WB             |                         |   |               |                    |                |        |                                      |   |               |                    |                |        |
| 29A            | 4.43                    | 2.02                                    | 10.42         | 2.77               | 2.50           | 22.14  | 42.68                                | 19.46                                   | 55.59         | 39.10              | 38.16          | 194.99 |
| 29F            | 3.24                    | 1.48                                    | 1.25          | 0.00               | 0.00           | 5.97   | 45.92                                | 20.94                                   | 56.84         | 39.10              | 38.16          | 200.96 |
| 29G            | 10.74                   | 4.90                                    | 5.93          | 0.00               | -9.00          | 12.57  | 56.66                                | 25.84                                   | 62.77         | 39.10              | 29.16          | 213.53 |
| 29H            | 6.69                    | 3.05                                    | 5.62          | 0.00               | 0.00           | 15.36  | 63.35                                | 28.89                                   | 68.39         | 39.10              | 29.16          | 228.89 |
| 29J            | 11.21                   | 5.11                                    | 1.62          | 0.00               | -16.83         | 1.11   | 74.56                                | 34.00                                   | 70.01         | 39.10              | 12.33          | 230.00 |
| 30             | 18.00                   | 8.21                                    | 5.04          | 0.00               | 0.00           | 31.25  | 92.56                                | 42.21                                   | 75.05         | 39.10              | 12.33          | 261.25 |
| CB             |                         |   |               |                    |                |        |                                      |   |               |                    |                |        |
| 31A            | 8.14                    | 3.71                                    | 23.79         | 2.10               | 2.15           | 39.89  | 16.60                                | 7.56                                    | 32.76         | 6.13               | 6.03           | 69.08  |
| 33A            | 304.16                  | 138.69                                  | 44.88         | 14.64              | 28.11          | 530.48 | 320.76                               | 146.25                                  | 77.64         | 20.77              | 34.14          | 599.56 |
| 34             | 217.32                  | 99.09                                   | 1.25          | 0.00               | 0.00           | 317.66 | 538.08                               | 245.34                                  | 78.89         | 20.77              | 34.14          | 917.22 |
| 35             | 0.00                    | 0.00                                    | 0.00          | 0.00               | 0.00           | 0.00   | 538.08                               | 245.34                                  | 78.89         | 20.77              | 34.14          | 917.22 |

(a) Representative of transportation unit costs only; does not include a unit cost of conservation. The Delta Water Rate should be added to these values in order to approximate unit costs at canalside.

Includes surplus water prior to May 1, 1973.

(b) Hypothetical charges which, if assessed on all Table A water delivered to date, all surplus water delivered prior to May 1, 1973, and all Table A water estimated to be delivered during the remainder of the Project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charges required under the water supply contract considering interest rate at the Project Interest Rate of 4.610 percent per annum.

(c) The Water System Revenue Bond Surcharge equivalent unit rate is calculated by multiplying Column 1 by the ratio of the 2015 WSRB surcharge to the sum of the Transportation Capital and the Capital component of the Delta Water Charge.

**TABLE B-26 Capital Costs of Each Aqueduct Reach  
to be Reimbursed through the Capital Cost Component  
of the East Branch Enlargement Transportation Charge**

Sheet 1 of 2

| Calendar Year | (in dollars)        |                  |                  |                  |                  |                  |                    |                   |
|---------------|---------------------|------------------|------------------|------------------|------------------|------------------|--------------------|-------------------|
|               | CALIFORNIA AQUEDUCT |                  |                  |                  |                  |                  |                    |                   |
|               | MOJAVE DIVISION     |                  |                  |                  |                  |                  |                    |                   |
| Year          | Reach 18A           | Reach 19         | Reach 20A        | Reach 20B        | Reach 21         | Reach 22A        | Reach 22B          | Reach 23B         |
|               | [1]                 | [2]              | [3]              | [4]              | [5]              | [6]              | [7]                | [8]               |
| 1952          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1953          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1954          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1955          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1956          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1957          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1958          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1959          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1960          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1961          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1962          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1963          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1964          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1965          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1966          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1967          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1968          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1969          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1970          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1971          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1972          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1973          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1974          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1975          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1976          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1977          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1978          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1979          | 117,000             | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1980          | 200,000             | 0                | 0                | 0                | 0                | 0                | 0                  | 74,000            |
| 1981          | 135,000             | 0                | 0                | 0                | 0                | 0                | 0                  | 385,000           |
| 1982          | 1,503,000           | 0                | 0                | 0                | 0                | 0                | 0                  | 1,586,000         |
| 1983          | 2,260,000           | 0                | 0                | 0                | 0                | 0                | 0                  | 2,965,000         |
| 1984          | 735,000             | 0                | 0                | 0                | 0                | 0                | 796,000            | 1,380,000         |
| 1985          | 93,000              | 435,000          | 75,000           | 544,000          | 859,000          | 703,000          | 970,000            | 146,000           |
| 1986          | 784,000             | 4,477,000        | 3,144,000        | 2,234,000        | 1,569,000        | 1,203,000        | 1,808,000          | 34,000            |
| 1987          | 11,000              | 951,000          | 1,076,000        | 666,000          | 399,000          | 47,000           | 16,421,000         | 43,000            |
| 1988          | 1,000               | 125,000          | 1,681,000        | 1,730,000        | 2,024,000        | 40,000           | 13,326,000         | 70,000            |
| 1989          | 0                   | 206,000          | 2,089,000        | 2,174,000        | 2,510,000        | 61,000           | 11,242,000         | 229,000           |
| 1990          | 1,000               | 577,000          | 903,000          | 735,000          | 928,000          | 194,000          | 20,131,000         | 887,000           |
| 1991          | 1,000               | 280,000          | 413,000          | 333,000          | 422,000          | 93,000           | 20,702,000         | 1,215,000         |
| 1992          | 0                   | 40,000           | 41,000           | 39,000           | 35,000           | 13,000           | 9,599,000          | 3,719,000         |
| 1993          | 0                   | 19,000           | 16,000           | 19,000           | 12,000           | 6,000            | 2,319,000          | 19,654,000        |
| 1994          | 0                   | 2,000            | 3,000            | 2,000            | 4,000            | 3,000            | 803,000            | 3,173,000         |
| 1995          | 0                   | 0                | 0                | 0                | 0                | 0                | 223,000            | 1,465,000         |
| 1996          | 0                   | 0                | 0                | 0                | 0                | 0                | 6,014,000          | 478,000           |
| 1997          | 0                   | 0                | 0                | 0                | 0                | 0                | 404,000            | 1,327,000         |
| 1998          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 1999          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 2000          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 2001          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| 2002          | 0                   | 0                | 0                | 0                | 0                | 0                | 0                  | 0                 |
| <b>TOTAL</b>  | <b>5,841,000</b>    | <b>7,112,000</b> | <b>9,441,000</b> | <b>8,476,000</b> | <b>8,762,000</b> | <b>2,363,000</b> | <b>104,758,000</b> | <b>38,830,000</b> |

**TABLE B-26 Capital Costs of Each Aqueduct Reach  
to be Reimbursed through the Capital Cost Component  
of the East Branch Enlargement Transportation Charge**

Sheet 2 of 2

| Calendar Year | (in dollars) CALIFORNIA AQUEDUCT (continued) |          |                    |                    |                    |                  |                    | GRAND TOTAL        |  |
|---------------|--|----------|--------------------|--------------------|--------------------|------------------|--------------------|--------------------|--|
|               | MOJAVE DIVISION (continued)                  |          |                    | SANTA ANA DIVISION |                    |                  |                    |                    |  |
|               | Reach 23C                                    | Reach 24 | Total              | Reach 25           | Reach 26A          | Reach 26B        | Total              |                    |  |
|               | [9]  | [10]     | [11]               | [12]               | [13]               | [14]             | [15]               | [16]               |  |
| 1952          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1953          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1954          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1955          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1956          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1957          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1958          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1959          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1960          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1961          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1962          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1963          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1964          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1965          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1966          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1967          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1968          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1969          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1970          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1971          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1972          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1973          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1974          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1975          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1976          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1977          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1978          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 1979          | 0  | 0        | 117,000            | 0                  | 0                  | 0                | 0                  | 117,000            |  |
| 1980          | 0  | 0        | 274,000            | 0                  | 0                  | 0                | 0                  | 274,000            |  |
| 1981          | 0  | 0        | 520,000            | 0                  | 0                  | 0                | 0                  | 520,000            |  |
| 1982          | 0  | 0        | 3,089,000          | 0                  | 0                  | 0                | 0                  | 3,089,000          |  |
| 1983          | 0  | 0        | 5,225,000          | 0                  | 0                  | 0                | 0                  | 5,225,000          |  |
| 1984          | 0  | 0        | 2,911,000          | 0                  | 0                  | 0                | 0                  | 2,911,000          |  |
| 1985          | 0  | 0        | 3,825,000          | 0                  | 528,000            | 89,000           | 617,000            | 4,442,000          |  |
| 1986          | 25,000                                       | 0        | 15,278,000         | 0                  | 1,926,000          | 154,000          | 2,080,000          | 17,358,000         |  |
| 1987          | 178,000                                      | 0        | 19,792,000         | 0                  | 3,699,000          | 437,000          | 4,136,000          | 23,928,000         |  |
| 1988          | 632,000                                      | 0        | 19,629,000         | 0                  | 5,667,000          | 3,329,000        | 8,996,000          | 28,625,000         |  |
| 1989          | 1,130,000                                    | 0        | 19,641,000         | 0                  | 40,879,000         | 1,650,000        | 42,529,000         | 62,170,000         |  |
| 1990          | 2,066,000                                    | 0        | 26,422,000         | 0                  | 29,853,000         | 1,650,000        | 31,503,000         | 57,925,000         |  |
| 1991          | 4,980,000                                    | 0        | 28,439,000         | 0                  | 26,027,000         | 999,000          | 27,026,000         | 55,465,000         |  |
| 1992          | 11,920,000                                   | 0        | 25,406,000         | 0                  | 15,317,000         | 299,000          | 15,616,000         | 41,022,000         |  |
| 1993          | 16,303,000                                   | 0        | 38,348,000         | 0                  | 4,878,000          | 0                | 4,878,000          | 43,226,000         |  |
| 1994          | 7,081,000                                    | 0        | 11,071,000         | 0                  | 3,151,000          | 0                | 3,151,000          | 14,222,000         |  |
| 1995          | 5,350,000                                    | 0        | 7,038,000          | 0                  | 2,137,000          | 0                | 2,137,000          | 9,175,000          |  |
| 1996          | 1,706,000                                    | 0        | 8,198,000          | 0                  | 9,181,000          | 0                | 9,181,000          | 17,379,000         |  |
| 1997          | 1,905,000                                    | 0        | 3,636,000          | 0                  | 175,000            | 0                | 175,000            | 3,811,000          |  |
| 1998          | 28,000                                       | 0        | 28,000             | 0                  | 0                  | 0                | 0                  | 28,000             |  |
| 1999          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 2000          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 2001          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| 2002          | 0  | 0        | 0                  | 0                  | 0                  | 0                | 0                  | 0                  |  |
| <b>TOTAL</b>  | <b>53,304,000</b>                            | <b>0</b> | <b>238,887,000</b> | <b>0</b>           | <b>143,418,000</b> | <b>8,607,000</b> | <b>152,025,000</b> | <b>390,912,000</b> |  |

**TABLE B-27 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of the East Branch Enlargement Transportation Charge**

Sheet 1 of 2

| Calendar Year | (in dollars)        |           |           |           |          |           |            |           |
|---------------|---------------------|-----------|-----------|-----------|----------|-----------|------------|-----------|
|               | CALIFORNIA AQUEDUCT |           |           |           |          |           |            |           |
|               | MOJAVE DIVISION     |           |           |           |          |           |            |           |
|               | Reach 18A           | Reach 19  | Reach 20A | Reach 20B | Reach 21 | Reach 22A | Reach 22B  | Reach 23B |
|               | [1]                 | [2]       | [3]       | [4]       | [5]      | [6]       | [7]        | [8]       |
| 1971          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1972          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1973          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1974          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1975          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1976          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1977          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1978          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1979          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1980          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1981          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1982          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1983          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1984          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1985          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1986          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1987          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1988          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1989          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1990          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1991          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1992          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1993          | 0                   | 0         | 0         | 0         | 0        | 0         | 0          | 0         |
| 1994          | 0                   | 0         | 0         | 0         | 0        | 0         | 1,048,625  | 0         |
| 1995          | 0                   | 0         | 0         | 0         | 0        | 0         | 953,814    | 0         |
| 1996          | 0                   | 0         | 0         | 0         | 0        | 0         | 1,171,411  | 0         |
| 1997          | 0                   | 0         | 0         | 0         | 0        | 0         | 1,110,038  | 0         |
| 1998          | 0                   | 0         | 0         | 0         | 0        | 0         | 1,213,002  | 0         |
| 1999          | 1,229               | 517       | 646       | 409       | 383      | 169       | 668,466    | 0         |
| 2000          | 4,452               | 1,875     | 2,340     | 1,484     | 1,386    | 614       | 1,315,186  | 0         |
| 2001          | 347                 | 146       | 183       | 116       | 108      | 48        | 1,029,962  | 0         |
| 2002          | 1,639               | 690       | 861       | 546       | 510      | 226       | 1,535,510  | 0         |
| 2003          | 0                   | 0         | 0         | 0         | 0        | 0         | 1,816,604  | 0         |
| 2004          | 2,132               | 27,868    | 18,579    | 18,731    | 10,355   | 8,528     | 1,476,572  | 0         |
| 2005          | 1,243               | 16,250    | 10,833    | 10,922    | 6,038    | 4,973     | 1,034,832  | 0         |
| 2006          | 4,632               | 60,550    | 40,367    | 40,697    | 22,499   | 18,529    | 1,492,093  | 0         |
| 2007          | 13,123              | 171,531   | 114,354   | 115,291   | 63,738   | 52,490    | 1,826,451  | 0         |
| 2008          | 28,340              | 370,451   | 246,967   | 248,992   | 137,654  | 113,362   | 2,955,615  | 0         |
| 2009          | 37,593              | 491,395   | 327,597   | 330,282   | 182,595  | 150,372   | 2,894,790  | 0         |
| 2010          | 8,932               | 116,755   | 77,837    | 78,475    | 43,385   | 35,728    | 2,092,875  | 0         |
| 2011          | 6,959               | 90,964    | 60,643    | 61,140    | 33,801   | 27,836    | 2,123,113  | 0         |
| 2012          | 11,090              | 144,958   | 96,639    | 97,431    | 53,864   | 44,359    | 2,288,890  | 0         |
| 2013          | 293                 | 3,828     | 2,552     | 2,573     | 1,422    | 1,171     | 2,133,197  | 0         |
| 2014          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,627,068  | 0         |
| 2015          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,635,155  | 0         |
| 2016          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2017          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2018          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2019          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2020          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2021          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2022          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2023          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2024          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2025          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2026          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2027          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2028          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2029          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2030          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2031          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2032          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2033          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2034          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| 2035          | 0                   | 0         | 0         | 0         | 0        | 0         | 2,747,382  | 0         |
| TOTAL         | 122,004             | 1,497,780 | 1,000,397 | 1,007,089 | 557,740  | 458,406   | 92,390,910 | 0         |

**TABLE B-27 Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed through Minimum OMP&R Component of the East Branch Enlargement Transportation Charge**

Sheet 2 of 2

| Calendar Year | (in dollars) CALIFORNIA AQUEDUCT (continued) |          |             |                    |               |           |             | TOTAL       |  |
|---------------|--|----------|-------------|--------------------|---------------|-----------|-------------|-------------|--|
|               | MOJAVE DIVISION (continued)                  |          |             | SANTA ANA DIVISION |               |           |             |             |  |
|               | Reach 23C                                    | Reach 24 | Subtotal    | Reach 25           | Reach 26A (a) | Reach 26B | Subtotal    |             |  |
|               | [9]  | [10]     | [11]        | [12]               | [13]          | [14]      | [15]        | [16]        |  |
| 1971          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1972          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1973          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1974          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1975          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1976          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1977          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1978          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1979          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1980          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1981          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1982          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1983          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1984          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1985          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1986          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1987          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1988          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1989          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1990          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1991          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1992          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1993          | 0  | 0        | 0           | 0                  | 0             | 0         | 0           | 0           |  |
| 1994          | 0  | 0        | 1,048,625   | 0                  | 1,713,260     | 0         | 1,713,260   | 2,761,885   |  |
| 1995          | 0  | 0        | 953,814     | 0                  | 1,452,549     | 0         | 1,452,549   | 2,406,363   |  |
| 1996          | 0  | 0        | 1,171,411   | 0                  | 1,350,581     | 0         | 1,350,581   | 2,521,992   |  |
| 1997          | 679,826                                      | 0        | 1,789,864   | 0                  | 1,528,509     | 0         | 1,528,509   | 3,318,373   |  |
| 1998          | 825,038                                      | 0        | 2,038,040   | 0                  | 1,619,068     | 0         | 1,619,068   | 3,657,108   |  |
| 1999          | 382,178                                      | 0        | 1,053,997   | 0                  | 956,229       | 0         | 956,229     | 2,010,227   |  |
| 2000          | 735,389                                      | 0        | 2,062,727   | 0                  | 1,408,811     | 0         | 1,408,811   | 3,471,538   |  |
| 2001          | 812,061                                      | 0        | 1,842,972   | 0                  | 792,074       | 0         | 792,074     | 2,635,045   |  |
| 2002          | 727,301                                      | 0        | 2,267,283   | 0                  | 1,135,218     | 0         | 1,135,218   | 3,402,501   |  |
| 2003          | 899,762                                      | 0        | 2,716,366   | 0                  | 1,240,911     | 0         | 1,240,911   | 3,957,277   |  |
| 2004          | 913,700                                      | 0        | 2,476,465   | 0                  | 1,809,888     | 0         | 1,809,888   | 4,286,353   |  |
| 2005          | 1,036,879                                    | 0        | 2,121,970   | 0                  | 1,857,673     | 0         | 1,857,673   | 3,979,643   |  |
| 2006          | 831,418                                      | 0        | 2,510,786   | 0                  | 1,722,356     | 0         | 1,722,356   | 4,233,142   |  |
| 2007          | 1,319,751                                    | 0        | 3,676,729   | 0                  | 2,803,089     | 0         | 2,803,089   | 6,479,818   |  |
| 2008          | 1,081,391                                    | 0        | 5,182,773   | 0                  | 2,724,767     | 0         | 2,724,767   | 7,907,540   |  |
| 2009          | 1,542,670                                    | 0        | 5,957,294   | 0                  | 2,841,336     | 0         | 2,841,336   | 8,798,631   |  |
| 2010          | 1,454,474                                    | 0        | 3,908,462   | 0                  | 2,425,478     | 0         | 2,425,478   | 6,333,940   |  |
| 2011          | 1,825,553                                    | 0        | 4,230,008   | 0                  | 2,108,340     | 0         | 2,108,340   | 6,338,348   |  |
| 2012          | 1,284,203                                    | 0        | 4,021,433   | 0                  | 2,334,534     | 0         | 2,334,534   | 6,355,968   |  |
| 2013          | 1,623,709                                    | 0        | 3,768,746   | 0                  | 2,937,820     | 0         | 2,937,820   | 6,706,566   |  |
| 2014          | 1,773,422                                    | 0        | 4,400,490   | 0                  | 3,557,222     | 0         | 3,557,222   | 7,957,712   |  |
| 2015          | 2,001,671                                    | 0        | 4,636,826   | 0                  | 3,327,125     | 0         | 3,327,125   | 7,963,951   |  |
| 2016          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2017          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2018          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2019          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2020          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2021          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2022          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2023          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2024          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2025          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2026          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2027          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2028          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2029          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2030          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2031          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2032          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2033          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2034          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| 2035          | 2,094,159                                    | 0        | 4,841,541   | 0                  | 3,480,336     | 0         | 3,480,336   | 8,321,877   |  |
| TOTAL         | 63,633,576                                   | 0        | 160,667,903 | 0                  | 113,253,558   | 0         | 113,253,558 | 273,921,461 |  |

(a) Units 3 and 4 at Devil Canyon Powerplant were operational in 1993.

**TABLE B-28 Capital Costs of East Branch Enlargement  
Transportation Facilities Allocated to Each Contractor**

(in dollars)

| Calendar<br>Year | SOUTHERN CALIFORNIA AREA                            |  |                           |                           |                               |  |  | Total              |
|------------------|---|--|---------------------------|---------------------------|-------------------------------|--|--|--------------------|
|                  | Antelope<br>Valley-<br>East Kern<br>Water<br>Agency | Coachella<br>Valley<br>Water<br>District | Desert<br>Water<br>Agency | Mojave<br>Water<br>Agency | Palmdale<br>Water<br>District | San<br>Bernardino<br>Valley<br>Municipal<br>Water District | The<br>Metropolitan<br>Water District<br>of Southern<br>California |                    |
| [1]              | [2]   | [3]                                      | [4]                       | [5]                       | [6]                           | [7]  | [8]  |                    |
| 1971             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1972             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1973             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1974             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1975             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1976             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1977             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1978             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 1979             | 0   | 11,731                                   | 1,010                     | 10,566                    | 466                           | 0  | 93,227   | 117,000            |
| 1980             | 0   | 28,241                                   | 4,708                     | 27,495                    | 797                           | 0  | 212,759  | 274,000            |
| 1981             | 0   | 56,134                                   | 16,676                    | 61,271                    | 538                           | 0  | 385,381  | 520,000            |
| 1982             | 0   | 326,180                                  | 76,872                    | 337,913                   | 5,988                         | 0  | 2,342,047  | 3,089,000          |
| 1983             | 0   | 554,658                                  | 138,964                   | 582,070                   | 9,004                         | 0  | 3,940,304  | 5,225,000          |
| 1984             | 0   | 306,514                                  | 68,842                    | 314,468                   | 2,928                         | 0  | 2,218,248  | 2,911,000          |
| 1985             | 49,675  | 447,266                                  | 65,773                    | 347,262                   | 4,514                         | 21,614   | 3,505,896  | 4,442,000          |
| 1986             | 185,353   | 1,757,633                                | 236,324                   | 1,363,586                 | 41,900                        | 78,842   | 13,694,362   | 17,358,000         |
| 1987             | 49,735  | 2,455,279                                | 378,535                   | 1,774,447                 | 10,615                        | 151,421  | 19,107,968   | 23,928,000         |
| 1988             | 124,534   | 2,689,959                                | 500,466                   | 1,712,431                 | 13,783                        | 231,982  | 23,351,845   | 28,625,000         |
| 1989             | 155,446   | 7,118,094                                | 2,423,000                 | 1,671,088                 | 17,419                        | 1,673,409  | 49,111,544   | 62,170,000         |
| 1990             | 62,786  | 6,459,229                                | 1,943,918                 | 2,234,452                 | 8,680                         | 1,222,053  | 45,993,882   | 57,925,000         |
| 1991             | 28,686  | 6,265,822                                | 1,875,066                 | 2,168,712                 | 4,024                         | 1,065,433  | 44,057,257   | 55,465,000         |
| 1992             | 2,911   | 4,826,764                                | 1,610,921                 | 1,359,335                 | 471                           | 627,012  | 32,594,586   | 41,022,000         |
| 1993             | 1,205   | 5,094,237                                | 1,828,410                 | 2,722,156                 | 212                           | 199,684  | 33,380,096   | 43,226,000         |
| 1994             | 273   | 1,726,376                                | 631,816                   | 478,543                   | 27                            | 128,988  | 11,255,977   | 14,222,000         |
| 1995             | 0   | 1,130,963                                | 423,243                   | 206,978                   | 0                             | 87,480   | 7,326,336  | 9,175,000          |
| 1996             | 0   | 2,025,987                                | 645,296                   | 606,205                   | 0                             | 375,830  | 13,725,682   | 17,379,000         |
| 1997             | 0   | 451,011                                  | 154,366                   | 205,796                   | 0                             | 7,164  | 2,992,663  | 3,811,000          |
| 1998             | 0   | 3,551                                    | 1,293                     | 0                         | 0                             | 0  | 23,156   | 28,000             |
| 1999             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 2000             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 2001             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| 2002             | 0   | 0  | 0                         | 0                         | 0                             | 0  | 0  | 0                  |
| <b>TOTAL</b>     | <b>660,604</b>                                      | <b>43,735,629</b>                        | <b>13,025,499</b>         | <b>18,184,774</b>         | <b>121,366</b>                | <b>5,870,912</b>   | <b>309,313,216</b>   | <b>390,912,000</b> |

**TABLE B-29 Capital Cost Component of East Branch Enlargement  
Facilities Transportation Charge for Each Contractor<sup>a</sup>**

(in dollars)

| Calendar Year | SOUTHERN CALIFORNIA AREA                 |                                 |                     |                     |                         |  |  | Total                |
|---------------|--|---------------------------------|---------------------|---------------------|-------------------------|--|--|----------------------|
|               | Antelope Valley - East Kern Water Agency | Coachella Valley Water District | Desert Water Agency | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District (b) | The Metropolitan Water District of Southern California |                      |
|               | [1]                                      | [2]                             | [3]                 | [4]                 | [5]                     | [6]  | [7]  | [8]                  |
| 1971          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1972          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1973          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1974          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1975          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1976          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1977          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1978          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1979          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1980          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1981          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1982          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1983          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1984          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1985          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1986          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1987          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 1988          | 18,266                                   | 1,209,293                       | 360,156             | 502,810             | 3,356                   | 0  | 8,552,529  | 10,646,410           |
| 1989          | 19,176                                   | 1,269,524                       | 378,094             | 527,854             | 3,523                   | 0  | 8,978,504  | 11,176,675           |
| 1990          | 19,186                                   | 1,270,244                       | 378,308             | 528,153             | 3,525                   | 0  | 8,983,597  | 11,183,013           |
| 1991          | 19,187                                   | 1,270,261                       | 378,314             | 528,160             | 3,525                   | 0  | 8,983,717  | 11,183,164           |
| 1992          | 38,420                                   | 2,543,616                       | 757,549             | 1,057,606           | 7,059                   | 0  | 17,989,315   | 22,393,565           |
| 1993          | 40,029                                   | 2,650,139                       | 789,274             | 1,101,897           | 7,354                   | 0  | 18,742,682   | 23,331,375           |
| 1994          | 39,705                                   | 2,628,706                       | 782,890             | 1,092,986           | 7,295                   | 0  | 18,591,099   | 23,142,681           |
| 1995          | 39,632                                   | 2,623,828                       | 781,438             | 1,090,958           | 7,281                   | 0  | 18,556,603   | 23,099,740           |
| 1996          | 39,825                                   | 2,636,667                       | 785,261             | 1,096,296           | 7,317                   | 0  | 18,647,406   | 23,212,772           |
| 1997          | 41,743                                   | 2,763,629                       | 823,074             | 1,149,085           | 7,669                   | 0  | 19,545,322   | 24,330,522           |
| 1998          | 42,642                                   | 2,823,126                       | 840,793             | 1,173,823           | 7,834                   | 0  | 19,966,108   | 24,854,326           |
| 1999          | 44,738                                   | 2,961,887                       | 882,120             | 1,231,519           | 8,219                   | 0  | 20,947,475   | 26,075,958           |
| 2000          | 49,031                                   | 3,246,109                       | 966,768             | 1,349,695           | 9,008                   | 0  | 22,957,586   | 28,578,197           |
| 2001          | 49,048                                   | 3,247,263                       | 967,111             | 1,350,175           | 9,011                   | 0  | 22,965,748   | 28,588,356           |
| 2002          | 47,894                                   | 3,170,848                       | 944,353             | 1,318,402           | 8,799                   | 0  | 22,425,318   | 27,915,614           |
| 2003          | 40,765                                   | 2,698,871                       | 803,787             | 1,122,160           | 7,489                   | 0  | 19,087,337   | 23,760,409           |
| 2004          | 44,199                                   | 2,926,222                       | 871,498             | 1,216,690           | 8,120                   | 0  | 20,695,237   | 25,761,966           |
| 2005          | 33,144                                   | 2,194,299                       | 653,514             | 912,364             | 6,089                   | 0  | 15,518,826   | 19,318,236           |
| 2006          | 46,979                                   | 3,110,276                       | 926,313             | 1,293,217           | 8,631                   | 0  | 21,996,926   | 27,382,342           |
| 2007          | 45,289                                   | 2,998,370                       | 892,985             | 1,246,688           | 8,321                   | 0  | 21,205,488   | 26,397,141           |
| 2008          | 42,491                                   | 2,813,118                       | 837,813             | 1,169,662           | 7,806                   | 0  | 19,895,328   | 24,766,218           |
| 2009          | 43,670                                   | 2,891,182                       | 861,062             | 1,202,121           | 8,023                   | 0  | 20,447,424   | 25,453,482           |
| 2010          | 44,839                                   | 2,968,619                       | 884,125             | 1,234,318           | 8,238                   | 0  | 20,995,084   | 26,135,223           |
| 2011          | 43,190                                   | 2,859,419                       | 851,602             | 1,188,914           | 7,935                   | 0  | 20,222,785   | 25,173,845           |
| 2012          | 43,704                                   | 2,893,449                       | 861,737             | 1,203,063           | 8,029                   | 0  | 20,463,459   | 25,473,441           |
| 2013          | 37,663                                   | 2,493,469                       | 742,614             | 1,036,756           | 6,919                   | 0  | 17,634,660   | 21,952,081           |
| 2014          | 58,891                                   | 3,966,057                       | 1,190,060           | 1,621,132           | 10,820                  | 0  | 27,991,931   | 34,838,891           |
| 2015          | 63,827                                   | 4,297,808                       | 1,289,527           | 1,756,983           | 11,726                  | 0  | 30,333,900   | 37,753,771           |
| 2016          | 62,768                                   | 4,219,223                       | 1,264,999           | 1,727,844           | 11,532                  | 0  | 29,785,380   | 37,071,746           |
| 2017          | 64,997                                   | 4,374,225                       | 1,312,149           | 1,789,185           | 11,941                  | 0  | 30,875,227   | 38,427,724           |
| 2018          | 63,444                                   | 4,272,075                       | 1,281,806           | 1,746,464           | 11,657                  | 0  | 30,152,278   | 37,527,724           |
| 2019          | 63,623                                   | 4,287,644                       | 1,286,941           | 1,751,371           | 11,689                  | 0  | 30,259,167   | 37,660,435           |
| 2020          | 62,429                                   | 4,194,317                       | 1,257,248           | 1,718,536           | 11,470                  | 0  | 29,611,399   | 36,855,399           |
| 2021          | 63,783                                   | 4,291,817                       | 1,287,332           | 1,755,786           | 11,718                  | 0  | 30,294,185   | 37,704,621           |
| 2022          | 61,353                                   | 4,129,778                       | 1,238,926           | 1,688,876           | 11,272                  | 0  | 29,149,142   | 36,279,347           |
| 2023          | 50,454                                   | 3,405,483                       | 1,022,851           | 1,388,861           | 9,269                   | 0  | 24,029,022   | 29,905,940           |
| 2024          | 53,079                                   | 3,579,867                       | 1,074,860           | 1,461,138           | 9,752                   | 0  | 25,261,855   | 31,440,551           |
| 2025          | 60,364                                   | 4,062,905                       | 1,218,820           | 1,661,667           | 11,090                  | 0  | 28,677,418   | 35,692,264           |
| 2026          | 23,728                                   | 1,619,020                       | 488,537             | 653,188             | 4,360                   | 0  | 11,409,180   | 14,198,013           |
| 2027          | 24,165                                   | 1,650,561                       | 498,274             | 665,222             | 4,440                   | 0  | 11,630,028   | 14,472,690           |
| 2028          | 15,568                                   | 1,068,968                       | 323,423             | 428,553             | 2,860                   | 0  | 7,527,397  | 9,366,769            |
| 2029          | 16,320                                   | 1,121,368                       | 339,368             | 449,277             | 2,998                   | 0  | 7,895,807  | 9,825,138            |
| 2030          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 2031          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 2032          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 2033          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 2034          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| 2035          | 0  | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0                    |
| <b>TOTAL</b>  | <b>1,823,248</b>                         | <b>121,703,550</b>              | <b>36,377,674</b>   | <b>50,189,455</b>   | <b>334,969</b>          | <b>0</b>   | <b>859,878,879</b>                                     | <b>1,070,307,775</b> |

(a) 1988 through 2013 charges are debt service only and do not include bond cover, 2014 charges and after include both debt service and bond cover.

(b) Under Article 49(d)(4)(A) of its contract, San Bernardino Valley Municipal Water District elected to pay a portion of its allocated costs of East Branch Enlargement in

advance rather than to participate in payment of Water System Revenue Bonds. This election made via a letter of agreement signed June 1, 1987. As of

June 1999, \$6,347,938 has been received from the San Bernardino Valley Municipal Water District.

**TABLE B-30 Minimum OMP&R Component of East Branch Enlargement Facilities Transportation Charge for Each Contractor**

(in dollars)

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                                 |                     |                     |                         |  |  | Total       |
|---------------|--|---------------------------------|---------------------|---------------------|-------------------------|--|--|-------------|
|               | Antelope Valley-East Kern Water Agency | Coachella Valley Water District | Desert Water Agency | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | The Metropolitan Water District of Southern California |             |
| [1]           | [2]                                    | [3]                             | [4]                 | [5]                 | [6]                     | [7]  | [8]  |             |
| 1971          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1972          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1973          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1974          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1975          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1976          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1977          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1978          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1979          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1980          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1981          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1982          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1983          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1984          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1985          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1986          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1987          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1988          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1989          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1990          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1991          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1992          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1993          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0           |
| 1994          | 0                                      | 320,415                         | 101,486             | 95,075              | 0                       | 70,133   | 2,174,776  | 2,761,885   |
| 1995          | 0                                      | 278,176                         | 86,604              | 86,479              | 0                       | 59,461   | 1,895,643  | 2,406,363   |
| 1996          | 0                                      | 287,293                         | 82,991              | 106,208             | 0                       | 55,287   | 1,990,213  | 2,521,992   |
| 1997          | 0                                      | 389,636                         | 123,446             | 100,643             | 0                       | 62,571   | 2,642,077  | 3,318,373   |
| 1998          | 0                                      | 429,772                         | 135,927             | 109,979             | 0                       | 66,278   | 2,915,152  | 3,657,108   |
| 1999          | 37                                     | 236,006                         | 75,040              | 60,907              | 11                      | 39,144   | 1,599,082  | 2,010,227   |
| 2000          | 132                                    | 403,529                         | 121,437             | 120,330             | 40                      | 57,671   | 2,768,399  | 3,471,538   |
| 2001          | 10                                     | 306,085                         | 89,149              | 93,468              | 3                       | 32,424   | 2,113,906  | 2,635,045   |
| 2002          | 49                                     | 389,610                         | 108,153             | 139,619             | 15                      | 46,471   | 2,718,584  | 3,402,501   |
| 2003          | 0                                      | 452,587                         | 124,214             | 164,705             | 0                       | 50,798   | 3,164,973  | 3,957,277   |
| 2004          | 1,278                                  | 500,000                         | 153,330             | 141,551             | 265                     | 74,089   | 3,415,840  | 4,286,353   |
| 2005          | 745                                    | 473,591                         | 157,461             | 98,300              | 154                     | 76,045   | 3,173,347  | 3,979,643   |
| 2006          | 2,777                                  | 490,144                         | 145,805             | 151,959             | 575                     | 70,506   | 3,371,376  | 4,233,142   |
| 2007          | 7,866                                  | 755,194                         | 232,458             | 212,838             | 1,630                   | 114,746  | 5,155,086  | 6,479,818   |
| 2008          | 16,988                                 | 889,641                         | 232,251             | 369,999             | 3,520                   | 111,540  | 6,283,601  | 7,907,540   |
| 2009          | 22,534                                 | 993,613                         | 262,494             | 397,793             | 4,669                   | 116,312  | 7,001,216  | 8,798,631   |
| 2010          | 5,354                                  | 734,994                         | 219,181             | 221,909             | 1,109                   | 99,289   | 5,052,104  | 6,333,940   |
| 2011          | 4,171                                  | 737,437                         | 218,795             | 217,547             | 864                     | 86,306   | 5,073,228  | 6,338,348   |
| 2012          | 6,647                                  | 730,354                         | 208,855             | 247,448             | 1,377                   | 95,566   | 5,065,721  | 6,355,968   |
| 2013          | 176                                    | 790,234                         | 252,003             | 194,464             | 36                      | 120,262  | 5,349,391  | 6,706,566   |
| 2014          | 0                                      | 935,442                         | 296,501             | 238,188             | 0                       | 145,617  | 6,341,964  | 7,957,712   |
| 2015          | 0                                      | 936,344                         | 294,701             | 238,921             | 0                       | 136,198  | 6,357,787  | 7,963,951   |
| 2016          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2017          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2018          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2019          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2020          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2021          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2022          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2023          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2024          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2025          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2026          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2027          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2028          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2029          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2030          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2031          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2032          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2033          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2034          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| 2035          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877   |
| TOTAL         | 68,764                                 | 32,031,777                      | 9,886,422           | 8,790,250           | 14,268                  | 4,636,114                                      | 218,493,866  | 273,921,461 |

**TABLE B-31 Total East Branch Enlargement Facilities  
Transportation Charge for Each Contractor**

(in dollars)

| Calendar Year | SOUTHERN CALIFORNIA AREA               |                                 |                     |                     |                         |  |  | Total         |
|---------------|--|---------------------------------|---------------------|---------------------|-------------------------|--|--|---------------|
|               | Antelope Valley-East Kern Water Agency | Coachella Valley Water District | Desert Water Agency | Mojave Water Agency | Palmdale Water District | San Bernardino Valley Municipal Water District | The Metropolitan Water District of Southern California |               |
| [1]           | [2]                                    | [3]                             | [4]                 | [5]                 | [6]                     | [7]  | [8]  |               |
| 1971          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1972          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1973          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1974          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1975          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1976          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1977          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1978          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1979          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1980          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1981          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1982          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1983          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1984          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1985          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1986          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1987          | 0                                      | 0                               | 0                   | 0                   | 0                       | 0  | 0  | 0             |
| 1988          | 18,266                                 | 1,209,293                       | 360,156             | 502,810             | 3,356                   | 0  | 8,552,529  | 10,646,410    |
| 1989          | 19,176                                 | 1,269,524                       | 378,094             | 527,854             | 3,523                   | 0  | 8,978,504  | 11,176,675    |
| 1990          | 19,186                                 | 1,270,244                       | 378,308             | 528,153             | 3,525                   | 0  | 8,983,597  | 11,183,013    |
| 1991          | 19,187                                 | 1,270,261                       | 378,314             | 528,160             | 3,525                   | 0  | 8,983,717  | 11,183,164    |
| 1992          | 38,420                                 | 2,543,616                       | 757,549             | 1,057,606           | 7,059                   | 0  | 17,989,315   | 22,393,565    |
| 1993          | 40,029                                 | 2,650,139                       | 789,274             | 1,101,897           | 7,354                   | 0  | 18,742,682   | 23,331,375    |
| 1994          | 39,705                                 | 2,949,121                       | 884,376             | 1,188,061           | 7,295                   | 70,133   | 20,765,875   | 25,904,566    |
| 1995          | 39,632                                 | 2,902,004                       | 868,042             | 1,177,437           | 7,281                   | 59,461   | 20,452,246   | 25,506,103    |
| 1996          | 39,825                                 | 2,923,960                       | 868,252             | 1,202,504           | 7,317                   | 55,287   | 20,637,619   | 25,734,764    |
| 1997          | 41,743                                 | 3,153,265                       | 946,520             | 1,249,728           | 7,669                   | 62,571   | 22,187,399   | 27,648,895    |
| 1998          | 42,642                                 | 3,252,898                       | 976,720             | 1,283,802           | 7,834                   | 66,278   | 22,881,260   | 28,511,434    |
| 1999          | 44,775                                 | 3,197,893                       | 957,160             | 1,292,426           | 8,230                   | 39,144   | 22,546,557   | 28,086,185    |
| 2000          | 49,163                                 | 3,649,638                       | 1,088,205           | 1,470,025           | 9,048                   | 57,671   | 25,725,985   | 32,049,735    |
| 2001          | 49,058                                 | 3,553,348                       | 1,056,260           | 1,443,643           | 9,014                   | 32,424   | 25,079,654   | 31,223,401    |
| 2002          | 47,943                                 | 3,560,458                       | 1,052,506           | 1,458,021           | 8,814                   | 46,471   | 25,143,902   | 31,318,115    |
| 2003          | 40,765                                 | 3,151,458                       | 928,001             | 1,286,865           | 7,489                   | 50,798   | 22,252,310   | 27,717,686    |
| 2004          | 45,477                                 | 3,426,222                       | 1,024,828           | 1,358,241           | 8,385                   | 74,089   | 24,111,077   | 30,048,319    |
| 2005          | 33,889                                 | 2,667,890                       | 810,975             | 1,010,664           | 6,243                   | 76,045   | 18,692,173   | 23,297,879    |
| 2006          | 49,756                                 | 3,600,420                       | 1,072,118           | 1,445,176           | 9,206                   | 70,506   | 25,368,302   | 31,615,484    |
| 2007          | 53,155                                 | 3,753,564                       | 1,125,443           | 1,459,526           | 9,951                   | 114,746  | 26,360,574   | 32,876,959    |
| 2008          | 59,479                                 | 3,702,759                       | 1,070,064           | 1,539,661           | 11,326                  | 111,540  | 26,178,929   | 32,673,758    |
| 2009          | 66,204                                 | 3,884,795                       | 1,123,556           | 1,599,914           | 12,692                  | 116,312  | 27,448,640   | 34,252,113    |
| 2010          | 50,193                                 | 3,703,613                       | 1,103,306           | 1,456,227           | 9,347                   | 99,289   | 26,047,188   | 32,469,163    |
| 2011          | 47,361                                 | 3,596,856                       | 1,070,397           | 1,406,461           | 8,799                   | 86,306   | 25,296,013   | 31,512,193    |
| 2012          | 50,351                                 | 3,623,803                       | 1,070,592           | 1,450,511           | 9,406                   | 95,566   | 25,529,180   | 31,829,409    |
| 2013          | 37,839                                 | 3,283,703                       | 994,617             | 1,231,220           | 6,955                   | 120,262  | 22,984,051   | 28,658,647    |
| 2014          | 58,891                                 | 4,901,499                       | 1,486,561           | 1,859,320           | 10,820                  | 145,617  | 34,333,895   | 42,796,603    |
| 2015          | 63,827                                 | 5,234,152                       | 1,584,228           | 1,995,904           | 11,726                  | 136,198  | 36,691,687   | 45,717,722    |
| 2016          | 62,768                                 | 5,197,807                       | 1,573,206           | 1,976,940           | 11,532                  | 142,470  | 36,428,900   | 45,393,623    |
| 2017          | 64,997                                 | 5,352,809                       | 1,620,356           | 2,038,281           | 11,941                  | 142,470  | 37,518,747   | 46,749,601    |
| 2018          | 63,444                                 | 5,250,659                       | 1,590,013           | 1,995,560           | 11,657                  | 142,470  | 36,795,798   | 45,849,601    |
| 2019          | 63,623                                 | 5,266,228                       | 1,595,148           | 2,000,467           | 11,689                  | 142,470  | 36,902,687   | 45,982,312    |
| 2020          | 62,429                                 | 5,172,901                       | 1,565,455           | 1,967,632           | 11,470                  | 142,470  | 36,254,919   | 45,177,276    |
| 2021          | 63,783                                 | 5,270,401                       | 1,595,539           | 2,004,882           | 11,718                  | 142,470  | 36,937,705   | 46,026,498    |
| 2022          | 61,353                                 | 5,108,362                       | 1,547,133           | 1,937,972           | 11,272                  | 142,470  | 35,792,662   | 44,601,224    |
| 2023          | 50,454                                 | 4,384,067                       | 1,331,058           | 1,637,957           | 9,269                   | 142,470  | 30,672,542   | 38,227,817    |
| 2024          | 53,079                                 | 4,558,451                       | 1,383,067           | 1,710,234           | 9,752                   | 142,470  | 31,905,375   | 39,762,428    |
| 2025          | 60,364                                 | 5,041,489                       | 1,527,027           | 1,910,763           | 11,090                  | 142,470  | 35,320,938   | 44,014,141    |
| 2026          | 23,728                                 | 2,597,604                       | 796,744             | 902,284             | 4,360                   | 142,470  | 18,052,700   | 22,519,890    |
| 2027          | 24,165                                 | 2,629,145                       | 806,481             | 914,318             | 4,440                   | 142,470  | 18,273,548   | 22,794,567    |
| 2028          | 15,568                                 | 2,047,552                       | 631,630             | 677,649             | 2,860                   | 142,470  | 14,170,917   | 17,688,646    |
| 2029          | 16,320                                 | 2,099,952                       | 647,575             | 698,373             | 2,998                   | 142,470  | 14,539,327   | 18,147,015    |
| 2030          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| 2031          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| 2032          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| 2033          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| 2034          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| 2035          | 0                                      | 978,584                         | 308,207             | 249,096             | 0                       | 142,470  | 6,643,520  | 8,321,877     |
| TOTAL         | 1,892,012                              | 153,735,327                     | 46,264,096          | 58,979,705          | 349,237                 | 4,636,114                                      | 1,078,372,745  | 1,344,229,236 |

| CONVERSION FACTORS  |  |   |                            |   |
|---|--|---|----------------------------|---|
| Quantity  | To convert from customary unit             | To metric units   | Multiply customary unit by | To convert to customary unit, multiply metric unit by |
| Length  | inches (in)                                | millimeters (mm)●   | 25.4                       | 0.03937   |
|   | inches (in)                                | centimeters (cm)  | 2.54                       | 0.3937  |
|   | feet (ft)                                  | meters (m)  | 0.3048                     | 3.2808  |
|   | miles (mi)                                 | kilometers (km)   | 1.6093                     | 0.62139   |
| Area  | square inches (in <sup>2</sup> )           | square millimeters (mm <sup>2</sup> )                                 | 645.16                     | 0.00155   |
|   | square feet (ft <sup>2</sup> )             | square meters (m <sup>2</sup> )                                       | 0.092903                   | 10.764  |
|   | acres (ac)                                 | hectares (ha)   | 0.40469                    | 2.4710  |
|   | square miles (mi <sup>2</sup> )            | square kilometers (km <sup>2</sup> )                                  | 2.590                      | 0.3861  |
| Volume  | gallons (gal)                              | liters (L)  | 3.7854                     | 0.26417   |
|   | million gallons (10 <sup>6</sup> gal)      | megaliters (ML)   | 3.7854                     | 0.26417   |
|   | cubic feet (ft <sup>3</sup> )              | cubic meters (m <sup>3</sup> )  | 0.028317                   | 35.315  |
|   | cubic yards (yd <sup>3</sup> )             | cubic meters (m <sup>3</sup> )  | 0.76455                    | 1.308   |
|   | acre-feet (af)                             | thousand cubic meters (m <sup>3</sup> x 10 <sup>3</sup> )             | 1.2335                     | 0.8107  |
|   | acre-feet (af)                             | hectare-meters (ha - m)■  | 0.1234                     | 8.107   |
|   | thousand acre-feet (taf)                   | million cubic meters (m <sup>3</sup> x 10 <sup>6</sup> )              | 1.2335                     | 0.8107  |
|   | thousand acre-feet (taf)                   | hectare-meters (ha - m)■  | 123.35                     | 0.008107  |
|   | million acre-feet (maf)                    | billion cubic meters (m <sup>3</sup> x 10 <sup>9</sup> )◆             | 1.2335                     | 0.8107  |
|   | million acre-feet (maf)                    | cubic kilometers (km <sup>3</sup> )                                   | 1.2335                     | 0.8107  |
| Flow  | cubic feet per second (ft <sup>3</sup> /s) | cubic meters per second (m <sup>3</sup> /s)                           | 0.028317                   | 35.315  |
|   | gallons per minute (gal/min)               | liters per minute (L/min)   | 3.7854                     | 0.26417   |
|   | gallons per day (gal/day)                  | liters per day (L/day)  | 3.7854                     | 0.26417   |
|   | million gallons per day (mgd)              | megaliters per day (ML/day)   | 3.7854                     | 0.26417   |
|   | acre-feet per day (af/day)                 | thousand cubic meters per day (m <sup>3</sup> x 10 <sup>3</sup> /day) | 1.2335                     | 0.8107  |
| Mass  | pounds (lb)                                | kilograms (kg)  | 0.45359                    | 2.2046  |
|   | tons (short, 2,000 lb)                     | megagrams (Mg)  | 0.90718                    | 1.1023  |
| Velocity  | feet per second (ft/s)                     | meters per second (m/s)   | 0.3048                     | 3.2808  |
| Power   | horsepower (hp)                            | kilowatts (kW)  | 0.746                      | 1.3405  |
| Pressure  | pounds per square inch (psi)               | kilopascals (kPa)   | 6.8948                     | 0.14505   |
|   | feet head of water                         | kilopascals (kPa)   | 2.989                      | 0.32456   |
| Specific capacity   | gallons per minute per foot of drawdown    | liters per minute per meter of drawdown                               | 12.419                     | 0.08052   |
| Concentration   | parts per million (ppm)                    | milligrams per liter (mg/L)   | 1.0                        | 1.0   |
| Electrical conductivity   | micromhos per centimeter (μmhos/cm)        | microsiemens per centimeter (μS/cm)                                   | 1.0                        | 1.0   |
| Temperature   | degrees Fahrenheit (°F)                    | degrees Celsius (°C)  | (°F - 32)/1.8              | (1.8 x °C) + 32                                       |
| <ul style="list-style-type: none"> <li>● When using "dual units," inches are normally converted to millimeters (rather than centimeters).</li> <li>■ Not used often in metric countries, but is offered as a conceptual equivalent of customary western U.S. practice (a standard depth of water over a given area of land).</li> <li>◆ ASTM Manual E380 discourages the use of billion cubic meters since that magnitude is represented by giga (a thousand million) in other countries. It is shown here for potential use for quantifying large reservoir volumes (similar to million acre-feet).</li> </ul> |  |   |                            |   |
| OTHER COMMON CONVERSION FACTORS   |  |   |                            |   |
| 1 cubic foot=7.48 gallons=62.4 pounds of water  |  | 1 acre-foot=approximately 325,851 gallons=43,560 cubic feet           |                            |   |
| 1 cubic foot per second (cfs)=450 gallons per minute (gpm)  |  | 1 million gallons=3.07 acre-feet                                      |                            |   |
| 1 cfs=646,320 gallons per day=1.98 af a day   |  | 1 million gallons per day (mgd)=1,120 af a year                       |                            |   |



STATE OF CALIFORNIA  
CALIFORNIA NATURAL RESOURCES AGENCY  
DEPARTMENT OF WATER RESOURCES