



SACRAMENTO  
STATE

# Annual Report

2011-2012



**WATER PROGRAMS**  
SACRAMENTO STATE

# Office of Water Programs

## 2011–2012

In 1972, OWP began providing high-quality training programs for operators of drinking water and wastewater treatment plants and water and sewer systems, and in 1997 the office expanded its services to include technical expertise and applied research management services for stormwater research, including facility runoff characterization monitoring, field testing of best management practices (BMPs), and source identification/control studies. OWP engineers and scientists are experts in defining and developing research programs, providing technical oversight of projects, and analyzing and interpreting data to assure scientifically supported conclusions.

The Office of Water Programs is the international leader in providing training to operators and managers of water and wastewater treatment facilities. The training programs are recognized by all operator licensing boards in the U.S. and Canada as a means of preparing and qualifying for operator certification examinations, which are administered by the appropriate state or provincial agency. All training is offered as distance learning, using correspondence, video, or online formats with opportunities for continuing education units and contact hours for operators, supervisors, managers, and administrators.



**Dr. Kenneth D. Kerri, Emeritus Professor of Civil Engineering and Consultant at the Office of Water Programs:** Dr. Kerri is the founder of the Office of Water Programs and continues to serve as its chief consultant. He has won numerous awards and recognition for his contributions in teaching, research, and service to the

professional community in the areas of water resources, water and wastewater treatment, and operation of water and wastewater treatment plants, including the 2012 AWWA Water Resource Sustainability Division Best Paper Award.



**Dr. Ramzi J. Mahmood, Professor of Civil Engineering and Director of the Office of Water Programs:** In 1997, Dr. Mahmood launched the OWP Research Group, which specializes in the area of stormwater quality. He continues to teach both undergraduate and graduate students, and also consults and collaborates with numerous state, federal, and international agencies on issues related to the movement of chemicals in soil systems, environmental analysis and modeling, and operator training.

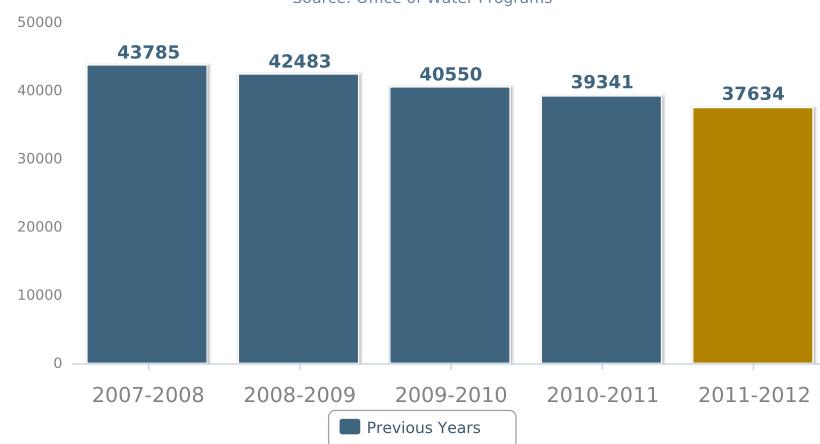
# Training Manuals and Courses

The Office of Water Programs continues to provide distance learning opportunities for operators across the country. For 2011–2012, we published three newly revised and updated training manuals:

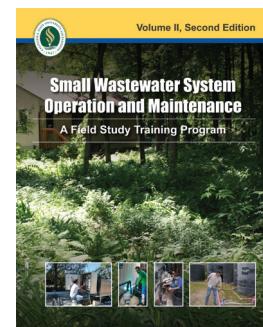
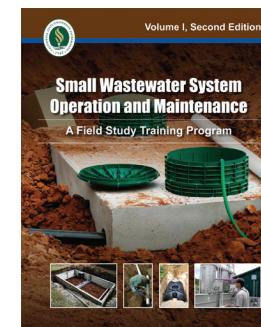
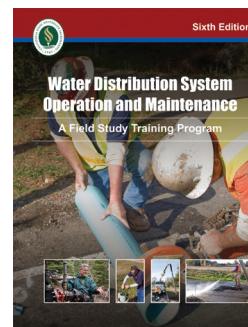
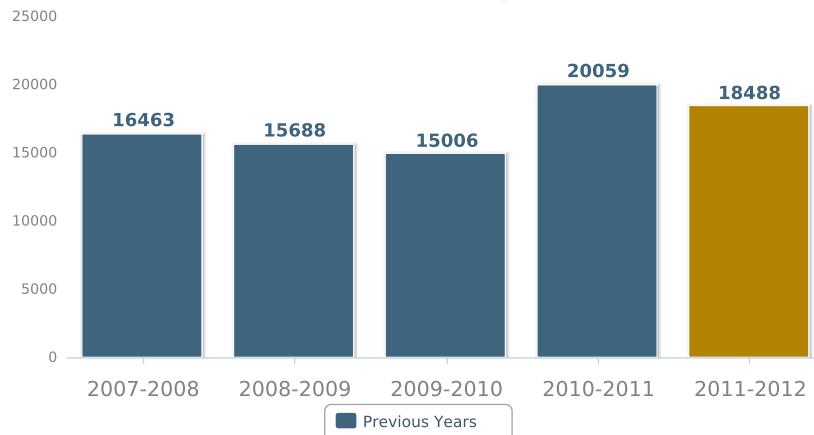
- ↳ **Water Distribution System Operation and Maintenance, 6<sup>th</sup> Edition**
- ↳ **Small Wastewater System Operation and Maintenance, Volume I, 2<sup>nd</sup> Edition**
- ↳ **Small Wastewater System Operation and Maintenance, Volume II, 2<sup>nd</sup> Edition**

Manuals 5-Year Trend

Source: Office of Water Programs



Enrollments 5-Year Trend  
Source: Office of Water Programs



*Total sales for the year reached 37,634 manuals and 18,488 enrollments.*

# Training Services

To meet the needs of the California Stormwater Quality Association (CASQA) and enhance the quality of California's water resources, the Office of Water Programs contracted to develop and administer an online testing service for the certification of qualified Stormwater Pollution Prevention Plan (SWPPP) developers and practitioners (QSD/QSP) involved in new construction projects throughout the state.

OWP integrated a new testing platform (utilizing Moodle) with our existing online user interface to allow QSD and QSP candidates to purchase, test, and receive grades and certificates from within a single system.

Part of the project also included the development and hosting of a publicly accessible tool that allows potential employers to locate qualified practitioners who have undergone the appropriate training and certification.

*For 2011–2012, 4,945 candidates and trainers used the online testing system.*

The top screenshot displays the 'CASQA QSD and QSP Exam and Account Management Portal'. The page header includes the Sacramento State logo and navigation links for 'Sec State Home', 'College of Engineering & Computer Science', and 'Department of Civil Engineering'. A sidebar on the right lists '2 Items' in a shopping cart icon, followed by links for 'Home', 'Operator Training Courses', 'Specialized Courses & Tools', 'Research', 'Annual Reports', 'FAQ', 'Glossary', 'Helpful Links', 'Contact Us', 'Need Answers Quickly?', 'How To Reach Us', and 'Sitemap'. The main content area shows a list of 'QSD and QSP Exam Completion Steps': 1. Specify your underlying certificate (California-registered professional geologist or registered environmental geologist 3865646546); 2. Specify your training details (Details for Jul 26, 2012 QSP); 3. Read CGP Review (CGP Review for You read the CGP Review); 4. Pay for your registration (Pay for Incomplete); 5. Take your exam (Exam). The bottom screenshot shows the 'Public Lookup' feature. The page header includes the Sacramento State logo and navigation links for 'Sec State Home', 'College of Engineering & Computer Science', and 'Department of Civil Engineering'. A sidebar on the right lists '0 Items' in a shopping cart icon, followed by links for 'Home', 'Operator Training Courses', 'Specialized Courses & Tools', 'Research', 'Annual Reports', 'FAQ', 'Glossary', 'Helpful Links', 'Contact Us', 'Need Answers Quickly?', 'How To Reach Us', and 'Sitemap'. The main content area has a search form with fields for 'Certificate' (All), 'Last Name' (Rewinile), 'Certificate Number', 'Zip Code', and a 'Submit Query' button. Below the form, a note states: 'Email and mailing addresses that are NOT listed, are at the request of the individuals and are not available for distribution.' A table titled '1 results found.' shows one entry: Name (Andrew Rewinile), Address (ANDREW RENEAL CLEARWATER ENVIRONMENTAL SERVICES 3865646546 DRIVE CARMEL VALLEY, CA 92022-1022), QSD/QSP (QSP), Certificate Number (00091), Expiry Date (Aug 03, 2012), Underlying Certificate (QESQI registered through EnviroEden Inc. 0354), and Status (Expired).

# Funded Research

## New Contracts:

**California Stormwater Quality Association (CASQA) Qualified SWPPP Developer (QSD) and Qualified SWPPP Practitioner (QSP) Test Grading Services.** \$191,250 from CASQA; executed January 21, 2011, to develop a system for grading QSD and QSP exams.

**Development of LID Standards, Stormwater Quality Design Manual Update, & BMP Sizing Tool Enhancement.** \$45,000 from the Sacramento Stormwater Quality Partnership; 21-month subcontract under RBF Consulting, executed September 15, 2011, to develop and provide the Partnership (including local cities and Sacramento County) with Low Impact Development standards and best management practices design tools.

**Educational Support Services to State Water Resources Control Board (SWRCB).** \$115,000 from the California State Water Resources Control Board (SWRCB); 2-year contract, executed April 16, 2012, to assist the Water Board Academy with development and delivery of educational events and materials.

**BOD Testing for Pond A3W Dissolved Oxygen Budget for Summer 2012.** \$1,739 from the United States Geological Survey (USGS); executed June 2012, to perform biochemical oxygen demand analyses on water samples.

## Continuing Contracts:

**OWP Technical Assistance.** \$14,000,000 from California Department of Transportation (Caltrans), Division of Environmental Analysis (DEA); contract executed June 1, 2008, to assist with stormwater research, especially discharge characterization, source identification and control, and treatment control studies.

**Santa Susana Field Laboratory (SSFL) Project Team.** \$74,500 from the California Department of Toxic Substances Control (DTSC); original contract executed 2009; renewal executed March 1, 2012, to provide technical assistance on the application of statistical concepts to the Santa Susana Field Laboratory project.

**(1) Division of Safety of Dams Mapping Project and (2) Engineering & Environmental Support to the Central Valley Flood Protection Board (CVFPB).** \$300,000 from the California Department of Water Resources (DWR); 3-year contract executed June 1, 2010. Research conducted in 2011–2012 addressed the status of California’s dam break inundation maps for the Division of Safety of Dams (DSOD); and identified proposed projects subject to encroachment permitting requirements, assisting with the permit application and staff report for the CVFPB.

# Proposals for Future Research

Office of Water Programs research engineers submitted successful proposals in 2011–2012 to fund future research in the following areas:

**Development of Engineered Soils to Promote Low Impact Development Implementation.** \$339,084; recommended for approval by the State Water Resources Control Board (SWRCB) in June 2012 and awarded by the SWRCB in July 2012.

**Development of Tool for Achieving Water Balance.** \$278,948; recommended for approval by the SWRCB in June 2012 and awarded by the SWRCB in July 2012.

Additional research proposals were submitted to the National Cooperative Highway Research Program and the USDA Forest Service/Pacific Southwest Research Station.



# OWP Titles

*Advanced Waste Treatment* (print, course enrollment)

*Basic Small Water System Operations* (print)

*Collection Systems: Methods for Evaluating and Improving Performance* (print, course enrollment)

*Industrial Waste Treatment, 2 volumes* (print, course enrollment)

*Manage for Success* (print, course enrollment)

*Membrane Bioreactors* (print, course enrollment)

*Operation and Maintenance of Wastewater Collection Systems, 2 volumes* (print, DVD, course enrollment)\*

*Operation of Wastewater Treatment Plants, 2 volumes* (print, CD, course enrollment, five online courses)\*

*Pretreatment Facility Inspection* (print, DVD, course enrollment)\*

*Small Wastewater System Operation and Maintenance, 2 volumes* (print, course enrollment)

*Small Water System Operation and Maintenance* (print, DVD, course enrollment, five online courses)

*Treatment of Metal Wastestreams* (print, course enrollment)

*Utility Management* (print, course enrollment)

*Water Distribution System Operation and Maintenance* (print, course enrollment, five online courses)

*Water Systems Operation and Maintenance Video Training Series* (print, DVD, course enrollment)

*Water Treatment Plant Operation, 2 volumes* (print, course enrollment)

\*Spanish translations are available for portions of these manuals



[www.owp.csus.edu](http://www.owp.csus.edu)