



BEAR RIVER COMMISSION

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801-524-6320 fax

CHAIR
Jody Williams

IDAHO
COMMISSIONERS
Gary Spackman
Kerry Romrell
Curtis Stoddard

UTAH
COMMISSIONERS
Eric Millis
Blair Francis
Charles W. Holmgren

WYOMING
COMMISSIONERS
Sue Lowry
Sam Lowham
Gordon Thornock

ENGINEER-MANAGER
Don A. Barnett

MINUTES

BEAR RIVER COMMISSION ANNUAL MEETING ONE HUNDRED TWENTY-SIXTH COMMISSION MEETING APRIL 21, 2015

I. Call to order – The annual meeting of the Bear River Commission was called to order by Chairwoman Jody Williams at 1:30 p.m. on Tuesday, April 21, 2015, at the Bear River Migratory Bird Refuge in Brigham City, Utah. This was the one-hundred twenty-sixth meeting of the Commission. Williams asked the Commissioners and audience to introduce themselves. An attendance roster is attached to these minutes as Appendix A.

Sue Lowry then presented a resolution of appreciation for Jade Henderson who had recently retired from the position of Division Superintendent in Cokeville. The resolution was read and unanimously approved by the Commission. Lowry noted that Kevin Payne had been appointed by the Governor as the new Division Superintendent.

Williams then addressed the agenda for the meeting. The agenda was approved and a copy is attached to these minutes as Appendix B.

II. Election of Officers – Williams opened nominations for new officers for the Bear River Commission. Nominations were made for Gordon Thornock to be elected as Vice Chair, Eric Millis to continue as Secretary and Randy Staker to continue as Treasurer. The nominations were unanimously approved by the Commission.

III. Approval of minutes of last Commission meeting – Williams asked if there were any changes to the draft minutes of the previous Commission meeting held on November 25, 2014, in Salt Lake City, Utah. Lowry made a motion to approve the minutes with one slight edit. The motion was seconded and passed.

IV. Reports of Secretary and Treasurer – In Randy Staker's absence Eric Millis presented both reports. He handed out a sheet showing income and expenditures for FY2015 to date (see Appendix C). He noted that payments had been received from all states and all water quality agencies. Expenses to date totaled \$111,412.89, leaving a cash balance of \$126,540.61. Millis then addressed the Commission budget with a handout showing the approved budget for FY2015 and proposed budgets for FY2016 and FY2017 (see Appendix D). He pointed out increases in certain line items for FY2016 and a decrease in stream gaging costs due to a change in payment for the Corinne gage. Regarding the budget for FY2017, Millis pointed out that there was a suggested increase in state assessments from \$40,000 to \$45,000, following seven years without an increase. He noted that this FY2017 budget would not

be voted on until the following year. As action needed to be taken on the FY2016 budget, a motion was made to accept the FY2016 budget as presented. The motion passed.

V. Welcome/Overview of the Bear River Migratory Bird Refuge – Chairwoman Williams introduced Karl Fleming, the Acting Deputy Manager of the Bear River Migratory Bird Refuge and thanked him for hosting the Commission meetings. Fleming gave a little history of the Refuge which was established in 1928 and was the first refuge in the State of Utah. He noted the importance of the Refuge for migratory birds, including certain endangered species. He welcomed the Commission to their facilities.

VI. 2015 Water Supply Outlook – Troy Brosten from the NRCS Snow Survey gave a presentation on the water outlook for the Bear River Basin (see Appendix E). Brosten reported that as of April 1st, the forecasted streamflow in the Bear River Basin was anywhere from 10 to 67 percent of normal and the average reservoir storage was 50 percent of capacity. As of April 20th, the snow water projections were 50 percent of normal with the snow coming off two to four weeks ahead of normal. Brosten showed graphs of snow water equivalent and streamflow forecasts for several locations in the Basin, as well as reservoir storage numbers.

At this point in the meeting, Eric Millis had to be excused and Todd Adams took his place as an alternate.

VII. Cache Valley's Water Master Plan – Bob Fotheringham then gave a report on Cache County's Water Master Plan (see Appendix F). In the process of master planning, they found two topics that were most important to the people of Cache County. The people in the county wanted to be involved in water conservation efforts and also wanted to protect their interest in Bear River development water. In 1991 Bear River water was split into four different allocations, with Cache County getting 60,000 acre-feet. The other 160,000 acre-feet was split between three downstream conservancy districts. There is a great interest in water development in the county, and Fotheringham explained the public process they have been implementing. Looking out to the year 2060, he anticipates the need for an additional 20,000 acre-feet for municipal and industrial use. Additional water is also needed for agricultural use as they have only been able to supply about two-thirds of what is needed for a full supply each year. A third priority for Cache County residents is environmental water demands. Fotheringham suggested that the best thing they can do to deal with their water needs is to create a water conservancy district. The cost of creating a district and taking steps to protect and manage their water will bring great financial benefits down the road as the economy grows. Without water the economy will stagnate. Fotheringham discussed the process of creating a water conservancy district and governing such an entity. There have been concerns expressed about creating a water conservancy district, and they have been addressing those concerns and creating bylaws that will deal with them and give the public more confidence in the plan. Fotheringham explained that they will continue to educate and do some public polling to see if they have the votes they need. They would like to do it by petition, which requires 67 percent, rather than resolution.

VIII. USGS Bear Lake Reports – Jack Barnett passed around copies of the attachment to Memorandum BR2015-13 which he referred to during his presentation (see Appendix G). He reminded the Commission that starting back in 1996, the U.S. Geological Survey started a study of Bear Lake as a result of a determination that Bear Lake might be the best place in the United States to take cores and try to find out if the sediments in the lake could be used to analyze recent climate change. The studies were more successful than they had hoped and they found cores that took

them back 250,000 years. As a result of these studies, there were 14 reports that were combined and published by the Geological Society of America as their *Special Paper 450*. There is a lot of technical information contained in these reports. It was the Commission's desire to summarize this information in a format that could be more easily understood. With the support of the Commission, the Utah Geological Survey prepared a booklet entitled *Why Is Bear Lake So Blue?* It was a nice booklet, but it didn't quite meet the Commission's objectives. Jack Barnett explained that at the urging of Don Barnett, he wrote a synopsis of each of these 14 reports, the introduction, and another 3 related reports. Barnett briefly reported on the content of each of these reports.

Lowry noted that there was a discussion on this topic in the Management Committee meeting and in a committee meeting held earlier in the morning. It was determined that it would be a good idea to make these reports available on the WIS website as well as the Commission website. A motion was made to this effect and it was seconded and passed.

The Commission then took a short break.

IX. Records & Public Involvement Committee Report – Charles Holmgren reported on discussions in the Records & Public Involvement Committee meeting. He noted that Curtis Stoddard had been elected as the new chair for the committee. Don Barnett gave a report for Cory Angeroth as he was not able to attend the committee meeting. Angeroth reported to the Commission that the Evanston gage was dropped through the winter but has been picked up by the National Streamflow Information Program and is now being operated by the Wyoming USGS Water Science Center. Holmgren mentioned that the Corinne gage is now totally funded by U.S. Fish & Wildlife Service and will no longer be going through the Commission. The three state water quality agencies continue to participate in funding for the gages. The river commissioners talked about real-time gage changes on the river, including two new gages in Idaho, two in Utah and a new gage in Wyoming.

Holmgren reported that the Bureau of Reclamation will no longer provide technical support for the online gages. Stonefly is offering to provide support, but there is no cost estimate yet. He mentioned that Jack Barnett discussed the benefits of real-time gages and that he is asking for more dialogue on the subject to be included in a report. It was suggested that Roger Hansen from the Bureau of Reclamation be recognized in these write-ups as he was instrumental in the development of real-time gaging on the river system. The committee discussed the possibility of getting a more detailed and larger map of gages on the river.

The committee discussed the 18th Biennial Report and considered using a collage of photos of real-time gaging on the cover of the report. There is a need for additional information to finish the report and the overview. Jack Barnett shared publications of interest, including the USGS 2015 calendar which contains several photos from Bear River Basin sites. Barnett also gave a brief report about John Wesley Powell and his views in the 1800's on the potential impact of development on irrigation in the Bear River Basin. David Cottle reported on the Bear Lake Research Library which is being funded by the Merlin Olsen Memorial Fund. There are 609 studies included at the Quinney Library at Utah State University and at Bear Lake Watch. There was also some discussion about the Pixley gage and how USGS is attempting to get better quality data from that gage.

X. Operations Committee Report – Sam Lowham announced that Blair Francis was elected as the new chair for the Operations Committee. Regarding river operations, there has been some

unofficial regulation taking place to try and get water into the reservoirs. It is expected that official regulation will start before long. Lowham discussed reservoir levels which were helped by the fall rains.

Connely Baldwin reported on PacifiCorp operations (see Appendix H). He noted that as of April 20, Bear Lake elevation was 5913.38 ft. with the hope that it might reach 5913.8 ft. The Bear Lake storage irrigation allocation of 224,000 acre-feet was declared on April 7th. Baldwin explained that Alexander Reservoir will be drawn down during the summer to replace the spill gates. He reported that they had determined to stay on a scheduled release for the boater float program with an allowance for some flexibility. PacifiCorp continues to implement their land management plans on the 2,000 acres associated with their hydroelectric generation plants, managing for big game, small game and recreational access. They are continuing their Bonneville Cutthroat Trout habitat restoration projects, as well as their conservation hatchery program which they are extending into additional reaches.

XI. Water Quality Committee Report – Walt Baker reported on the discussions of the Water Quality Committee the previous day. They had an update on their cooperative monitoring agreement which has been in place for some time. This program continues to be very valuable for all three states. Baker mentioned that Wyoming completed a sediment TMDL which they submitted to EPA, but there has been no word on it in six months. Utah will be initiating the Lower Bear River TMDL from Cutler to the Great Salt Lake, focusing on nutrients and dissolved oxygen. This will be contracted out.

Baker reported that Wyoming is looking at nutrient criteria, beginning with reservoirs. Idaho is working on a fairly significant initiative and they are in the process of receiving delegation from EPA to administer the Federal NPDES surface water discharge permit program. Idaho is also developing human health criteria for fish consumption. In the Willard Spur in Utah they have been doing some concentrated studies replicating in the field the impacts of nutrient loadings. This is the last year of a three-year effort. Baker reported that included in the implementation of their Great Salt Lake strategy is a concentrated monitoring effort, as well as looking at the wetlands. They are trying to develop numeric criteria for four toxic pollutants which may lead to additional studies. They are also looking at the hydrology of the lake where the footprint continues to decrease and is within a foot of the historic low. This has ramifications on industry, recreation, lake habitat, etc. He explained that most of the wastewater in the State of Utah ends up in the Great Salt Lake. They are looking at what it takes to sustain the ecosystem of the lake. They are also looking at toxins in Farmington Bay.

Baker mentioned that the Union Pacific Railroad is building a bridge on the causeway that separates the more saline north arm of the Great Salt Lake from the south arm. They have had two massive culverts on that causeway which have subsided over time, requiring constant rebuilding and reconstructing. As they felt they were going to lose aspects of that causeway, a certification was issued allowing them to pull the culverts out. However, the culverts are critical to the communication between the two arms of the lake with respect to the success of the brine shrimp industry and the mineral extraction work. The construction of this 150-foot span bridge should replicate the communication between the two areas. They are presently stalled on the project because of some disagreements, but are hopeful that the work will continue soon.

Another item noted by Baker was the effort to keep septic tanks from being used around Bear Lake. They have been successful at this for many years, but currently there is a proposed development on

the east side of the lake which would include septic tanks and drain fields. Idaho has a policy that you can't be within a mile of the lake with septic tanks, but Utah has not had such a policy. They are trying to come up with a solution.

XII. Management Committee Report – Lowry explained that the last depletions report was accepted previously by the Commission. The TAC has been charged with learning from the last effort how to streamline future updates. The TAC has also been working on four topics and has made good progress on two of them. One more is in the works, but the most difficult topic is how to determine the amount of depletion associated with supplemental supply rights where water is being additionally placed onto lands that have a pre-1976 water right. The Management Committee had a lengthy discussion on this topic but didn't really come to any definite conclusion. It was determined that the Management Committee would have a conference call on the subject in early June, prior to the next meeting of the TAC, so they could provide better direction on how the TAC should proceed.

XIII. Engineer-Manager's Report – Don Barnett had no particular items to report, but asked if the Commissioners had any assignments or questions they would like the TAC to consider when they meet.

XIV. State Reports – Wyoming – Lowry reported that results of Wyoming's multi-year Weather Modification Program study were released in December. The results were impressive enough that the Legislature added \$1.4 million to begin an operational cloud seeding program in the Big Horns, the Laramie, the Medicine Bow and the Sierra Madre ranges. In addition, a separate \$650,000 was appropriated as Wyoming's share to participate in the cloud seeding program in the Wind River Range, where other states and entities are also participating. Lowry mentioned that Barry Lawrence has been the project manager for the Wyoming Water Development Commission. She suggested that, if the Commission agreed, he could give a more thorough report on the project at the November meeting. As other states have also been involved, it was suggested that Utah could also participate in this report in November.

Lowry then reported that the Governor's water strategy had been released in January. One of his programs, called the "Ten in Ten," involved having ten relatively significant water projects in the next ten years. Lowry also mentioned that the Basin Advisory Group dealing with Upper Bear River Basin planning would be meeting the following week in Evanston. They would be talking about the weather modification program, as well as a new study that the Water Development Commission is getting ready to launch in June to do a watershed study within the Bear River Basin.

XIV. State Reports – Idaho – Gary Spackman mentioned that in an earlier discussion of Bear River gages, he had looked at the map and determined that there was a dearth of real-time gaging reporting in Idaho. At the state caucus, Josh Hanks reported that there are approximately 20 gages that don't show up on the map. He explained that there were 57 gages, 20 of which are real-time. It was determined that Hanks will relay that information to Jack Barnett to be included on the map.

Spackman also mentioned their failed attempts at initiating a Bear River adjudication this year. The input from public meetings was positive and the State of Idaho honestly thought that the legislature would authorize it this year. Apparently there were some influential people who were able to convince some of the legislators that this was not the year. There is still hope that the legislature will take it up next year.

Spackman explained some issues he has dealt with involve conjunctive management outside the Bear River Basin. He thought it would be of interest to the Commission in view of the reports of significant amounts of water development that will be needed for growth in the Bear River Basin in future years. He has been embroiled in a couple of contested cases for conjunctive management having to do with senior surface water users calling for their water against junior groundwater users. One is a senior aquaculture water right holder in the Hagerman area in Idaho. Spackman issued several orders last year that required curtailment and mitigation. The deadline on January 19th passed without the requirements for mitigation being satisfied. The court gave the groundwater users some reprieve and they finally put it together, but had they not, it would have resulted initially in the curtailment of 157,000 acres and could have expanded to 350,000 acres of curtailment. He is working on another case currently where he issued an order that found that there was a demand shortfall to some senior surface water users on the Snake River of 89,000 acre-feet, and the groundwater users have two weeks to submit information of mitigation or a curtailment order will be issued affecting approximately 85,000 acres of irrigated farmland. When you start talking about water with those kind of numbers, the size and impact is unimaginable. Spackman was emphasizing the fact that water management is upon all of us and something like this could come to pass in the Bear.

Spackman ended by expressing appreciation to Jade Henderson as he was retiring. He noted that Henderson had been very helpful to the State of Idaho in their interstate relationships and that the relationships between the three states have been enhanced by contact in the Bear River Commission.

XIV. State Reports – Utah – Todd Adams reviewed some items that Eric Millis asked him to report on for Utah. He mentioned that they had been called into the Governor's office several times this year to talk about water supply and drought efforts and what messages should go out to the public. Utah is also working on a new statewide water plan which should be coming out within the next several months. There is a water strategy group that has grown from a "gang of six" to a "mob of forty." It has evolved into a planning process by a group called Envision Utah. This group has developed a survey that suggests five different scenarios for the future. They are seeking public input to determine what the citizens of Utah would like to see happen as Utah heads into the future. Their goal is to get 50,000 responses, and they are making good progress on that effort. Adams wasn't sure where the Governor would go with the results of this survey in terms of his water strategy.

XV.A. Activities of the Bear River Water Users Association – Carly Burton noted that PacifiCorp's allocation to the Bear River Water Users Association is 90 percent of the maximum allocation, which is pretty amazing given the water conditions this year. There are many river basins that are getting much less. His concern was how to optimize the use of storage to get through the irrigation season. He felt it would take cooperation, communication and conservation.

XV.B. Bear Lake Watch – Claudia Cottle from Bear Lake Watch expressed appreciation to the group for their participation in the celebration of the 20th anniversary of the Bear Lake Settlement Agreement. She also discussed the issue of the vacant land that is exposed as the lake level goes down at Bear Lake and how that land will be managed. She was hopeful that people would be supportive of whatever management strategies might be developed to preserve that land.

XVI. Next Commission Meeting – Chairwoman Williams noted that this meeting included some extracurricular activities that are not generally a part of the Commission meetings. She expressed

gratitude to the people and entities for their hospitality and extra efforts that benefited the group. Williams indicated that the next meeting of the Commission is scheduled for November 17, 2015, at the Utah Department of Natural Resources building in Salt Lake City.

The Commission meeting was then adjourned.

ATTENDANCE ROSTER

BEAR RIVER COMMISSION ANNUAL MEETING

Bear River Migratory Bird Refuge
Brigham City, Utah
April 21, 2015

IDAHO COMMISSIONERS

Gary Spackman
Kerry Romrell
Curtis Stoddard

WYOMING COMMISSIONERS

Sue Lowry
Gordon Thornock
Sam Lowham
Erick Esterholdt (Alternate)

FEDERAL CHAIR

Jody Williams

UTAH COMMISSIONERS

Eric Millis
Charles Holmgren
Blair Francis
Joseph Larsen (Alternate)

ENGINEER-MANAGER & STAFF

Don Barnett
Jack Barnett
Donna Keeler

OTHERS IN ATTENDANCE

IDAHO

Jeff Peppersack, Department of Water Resources

UTAH

Walt Baker, Department of Environmental Quality
Will Atkin, Division of Water Rights
Carl Mackley, Division of Water Rights
Todd Adams, Division of Water Resources
Troy Brosten, NRCS Snow Survey
Jim Watterson, River Commissioner
Ron Hoffman, River Commissioner

WYOMING

Mike Johnson, State Engineer's Office
Kevin Payne, State Engineer's Office
Travis McInnis, State Engineer's Office

OTHERS

Connely Baldwin, PacifiCorp Energy
Claudia Conder, PacifiCorp Energy
Cory Angeroth, U.S. Geological Survey
Karl Fleming, U.S. Fish & Wildlife Service
Voneene Jorgensen, Bear River Water Conservancy District
Claudia Cottle, Bear Lake Watch
David Cottle, Bear Lake Watch
Carly Burton, Bear River Water Users Association
Brent Rose, Bear River Water Users Association
Bob Fotheringham, Cache County
Scott Clark, Barnett Intermountain Water Consulting

BEAR RIVER COMMISSION ANNUAL MEETINGS
April 20-21, 2015

Water Quality Committee Meeting
Bear River Migratory Bird Refuge Visitor Center
2155 W. Forest Street, Brigham City, Utah

All Other Meetings
Bear River Migratory Bird Refuge Visitor Center
2155 W. Forest Street, Brigham City, Utah

COMMISSION AND ASSOCIATED MEETINGS

April 20

10:00 a.m. Water Quality Committee Meeting – Conference Room

April 21

| | | |
|------------|--|------------|
| 9:00 a.m. | Records & Public Involvement Committee Meeting – Conference Room | Holmgren |
| 10:00 a.m. | Operations Committee Meeting – Conference Room | Lowham |
| 11:15 p.m. | Informal Meeting of Commission – Conference Room | D. Barnett |
| 11:30 p.m. | Lunch and celebration of 20-year anniversary of the Bear Lake Settlement Agreement Pacificorp/Bear River Water Users Association/ Bear Lake Watch | |
| 1:30 p.m. | Commission Meeting – Auditorium | Williams |

PROPOSED AGENDA
ANNUAL COMMISSION MEETING

April 21, 2015

Convene Meeting: 1:30 p.m.

Chairman: Jody Williams

- | | | |
|--------------|--|---------------|
| I. | Call to order | Williams |
| | A. Welcome of guests and overview of meeting | |
| | B. Recognitions | |
| | C. Approval of agenda | |
| II. | Election of officers | Williams |
| | A. Vice Chair | |
| | B. Secretary | |
| | C. Treasurer | |
| III. | Approval of minutes of last Commission meeting (November 25, 2014) | Williams |
| IV. | Reports of Secretary and Treasurer | Millis/Staker |
| | A. 2015 Expenditures to date | |
| | B. Adoption of 2016 budget | |
| | C. Other | |
| V. | Welcome/Overview of the Bear River Migratory Bird Refuge | Barrett |
| VI. | 2015 Water Supply Outlook | Brosten |
| VII. | Cache Valley's Water Master Plan | Fotheringham |
| VIII. | USGS Bear Lake Reports | J. Barnett |
| BREAK | | |
| IX. | Records & Public Involvement Committee report | Holmgren |
| X. | Operations Committee report | Lowham |
| | A. Committee meeting | |
| | B. Anticipated Operations and Regulation in 2015 | |
| | C. PacifiCorp operations | Baldwin |
| XI. | Water Quality Committee report | Baker |
| XII. | Management Committee report | Lowry |
| XIII. | Engineer-Manager's report | Barnett |
| XIV. | State reports | Lowry |
| | A. Wyoming | Spackman |
| | B. Idaho | Millis/Adams |
| | C. Utah | |
| XV. | Other / Public comment | Williams |
| | A. Activities of the Bear River Water Users Association | Burton |
| | B. Bear Lake Watch | Cottle |
| | C. Other | |
| XVI. | Next Commission meeting (Tuesday, November 17, 2015, at Utah DNR) | Williams |

Anticipated adjournment: 4:00 p.m.

BEAR RIVER COMMISSION

STATEMENT OF INCOME AND EXPENDITURES

FOR THE PERIOD OF July 1, 2014 to April 14, 2015

| INCOME | CASH ON HAND | OTHER INCOME | FROM STATES | INCOME |
|------------------------------|-----------------|--------------------|-----------------------|-------------------------|
| Cash Balance 07-01-14 | 109,266.42 | | | 109,266.42 |
| State of Idaho | | | 40,000.00 | 40,000.00 |
| State of Utah | | | 40,000.00 | 40,000.00 |
| State of Wyoming | | | 40,000.00 | 40,000.00 |
| Water Quality | | 8,151.00 | | 8,151.00 |
| Interest on Savings | | 536.08 | | 536.08 |
| TOTAL INCOME TO 14-Apr-15 | 109,266.42 | 8,687.08 | 120,000.00 | 237,953.50 |
| DEDUCT OPERATING EXPENSES | | | | |
| | | APPROVED BUDGET | UNEXPENDED BALANCE | EXPENDITURES TO DATE |
| Stream Gaging/USGS Contract | | 48,540.00 | - | 48,540.00 |
| SUBTOTAL | | 48,540.00 | - | 48,540.00 |
| EXPENDED THROUGH COMMISSION | | | | |
| Personal Services | BIWC | 61,700.00 | 10,283.30 | 51,416.70 |
| Travel (Eng-Mgr) | | 1,200.00 | 859.52 | 340.48 |
| Office Expenses | | 1,600.00 | 1,417.88 | 182.12 |
| Printing Biennial Report | | 1,000.00 | 1,000.00 | - |
| Treasurer Bond & Audit | | 1,400.00 | 1,300.00 | 100.00 |
| Printing | | 1,600.00 | 1,412.40 | 187.60 |
| Realtime Web Hosting | | 8,400.00 | 1,184.01 | 7,215.99 |
| Clerical | | 8,000.00 | 4,570.00 | 3,430.00 |
| Contingency | | 2,000.00 | 2,000.00 | - |
| SUBTOTAL | | 86,900.00 | 24,027.11 | 62,872.89 |
| TOTAL EXPENSES | | 135,440.00 | 24,027.11 | 111,412.89 |
| CASH BALANCE AS OF 04/14/15 | | | | 126,540.61 |

BEAR RIVER COMMISSION

DETAILS OF EXPENDITURES

FOR PERIOD ENDING April 14, 2015

| | | |
|-----|---------------|------------|
| 790 | BIWC | 10,283.34 |
| 791 | VOID | |
| 792 | Stonefly Tech | 1,800.00 |
| 793 | BIWC | 5,459.34 |
| 794 | VOID | |
| 795 | VOID | |
| 796 | USGS | 48,540.00 |
| 797 | Stonefly Tech | 1,800.00 |
| 798 | BIWC | 5,949.93 |
| 799 | BIWC | 5,291.42 |
| 800 | Stonefly Tech | 1,800.00 |
| 801 | BIWC | 5,493.81 |
| 802 | BIWC | 6,850.67 |
| 803 | Stonefly Tech | 15.99 |
| 804 | VOID | |
| 805 | BIWC | 5,460.44 |
| 806 | BIWC | 5,446.93 |
| 807 | Stonefly Tech | 1,800.00 |
| 808 | BIWC | 5,321.02 |
| 809 | C N A Surety | 100.00 |
| | TOTAL EXPENSE | 111,412.89 |

BANK RECONCILIATION

| | |
|--|------------|
| Cash in Bank per Statement 04/14/15 | (41.16) |
| Plus: Intransit Deposits | |
| Less: Outstanding Checks | |
| Total Cash in Bank | (41.16) |
| Plus: Savings Account-Utah State Treasurer | 126,581.77 |
| | 126,540.61 |

BEAR RIVER COMMISSION

APPROVED BUDGET FOR FY2015 AND PROPOSED BUDGETS FOR FY'S 2016 & 2017

| | FY2015 APPROVED BUDGET | FY2016 PROPOSED BUDGET | FY2017 PROPOSED BUDGET |
|----------------------------|---------------------------|---------------------------|---------------------------|
| | -INCOME- | -INCOME- | -INCOME- |
| BEGINNING BALANCE | 109,266.42 | 102,777.42 | 102,668.42 |
| IDAHO | 40,000.00 | 40,000.00 | 45,000.00 |
| UTAH | 40,000.00 | 40,000.00 | 45,000.00 |
| WYOMING | 40,000.00 | 40,000.00 | 45,000.00 |
| WATER QUALITY | 8,151.00 | 8,314.00 | 8,254.00 |
| INTEREST ON SAVINGS | 800.00 | 800.00 | 800.00 |
| TOTAL INCOME | 238,217.42 | 231,891.42 | 246,722.42 |
| | -EXPENDITURES- | -EXPENDITURES- | -EXPENDITURES- |
| STREAM GAGING-U.S.G.S. | 48,540.00 | 40,755.00 | 41,270.00 |
| PERSONAL SERVICES CONTRACT | 61,700.00 | 63,088.00 | 63,719.00 |
| TRAVEL | 1,200.00 | 1,200.00 | 1,200.00 |
| OFFICE EXPENSES | 1,600.00 | 1,600.00 | 1,600.00 |
| BIENNIAL REPORT | 1,000.00 | 1,000.00 | 1,000.00 |
| TREASURER'S BOND & AUDIT | 1,400.00 | 1,400.00 | 1,400.00 |
| PRINTING | 1,600.00 | 1,600.00 | 1,600.00 |
| REALTIME WEB HOSTING* | 8,400.00 | 8,400.00 | 8,400.00 |
| CLERICAL | 8,000.00 | 8,180.00 | 8,262.00 |
| CONTINGENCY | 2,000.00 | 2,000.00 | 2,000.00 |
| TOTAL EXPENDITURES | 135,440.00 | 129,223.00 | 130,451.00 |
| | 102,777.42 | 102,668.42 | 116,271.42 |

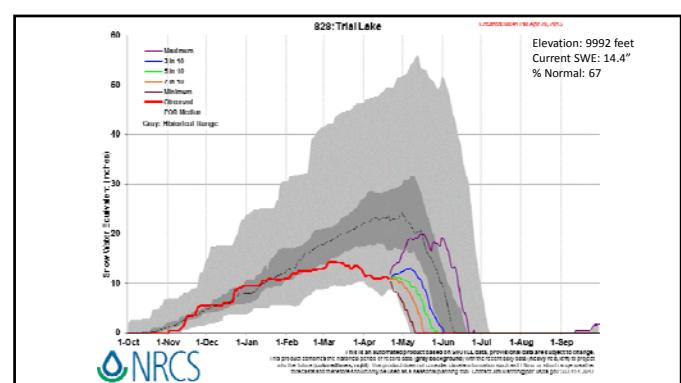
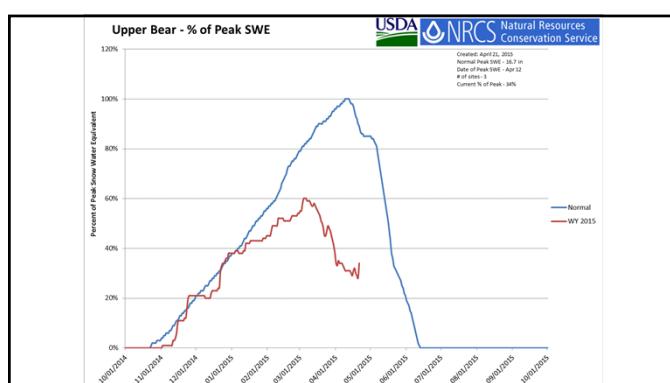
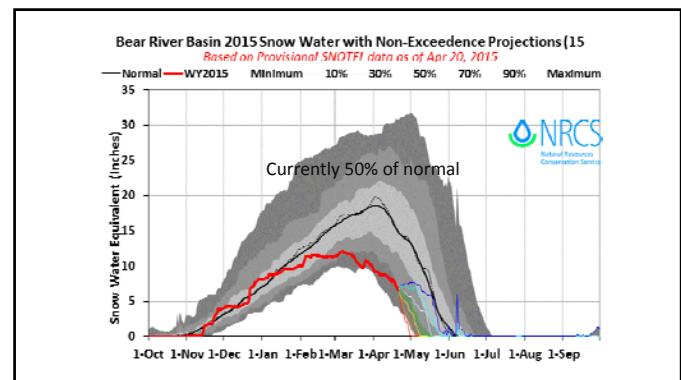
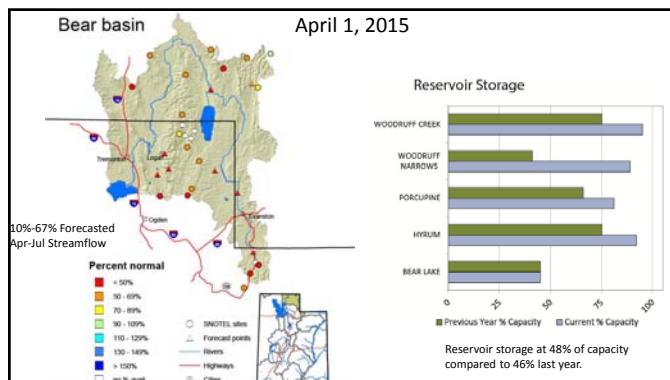
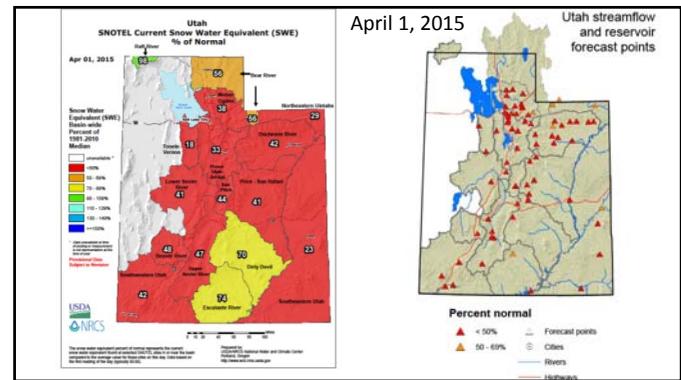
Notes: *There is the possibility of an increase in the web hosting. Stonefly may or may not take over the services that were being provided, at no cost to the Commission, by the Bureau of Reclamation. They are no longer able to do the work.

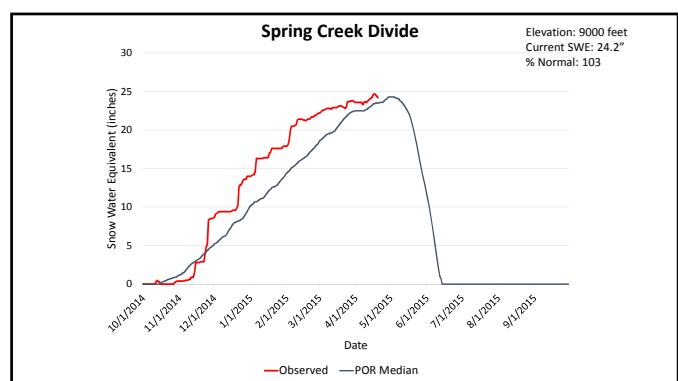
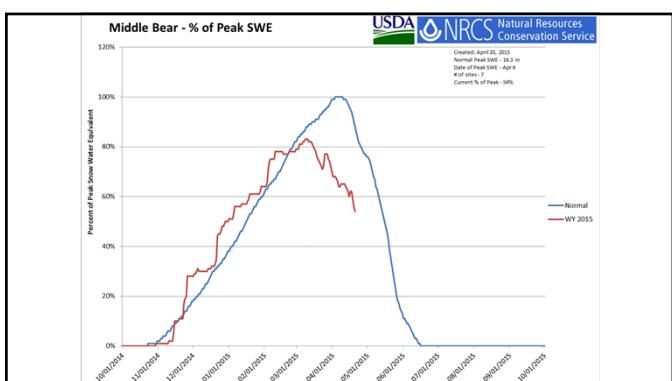
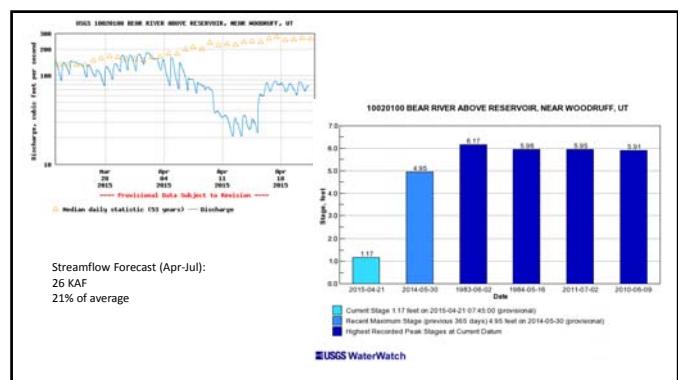
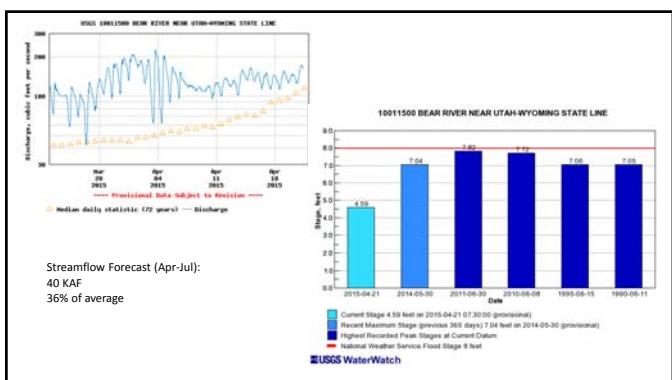
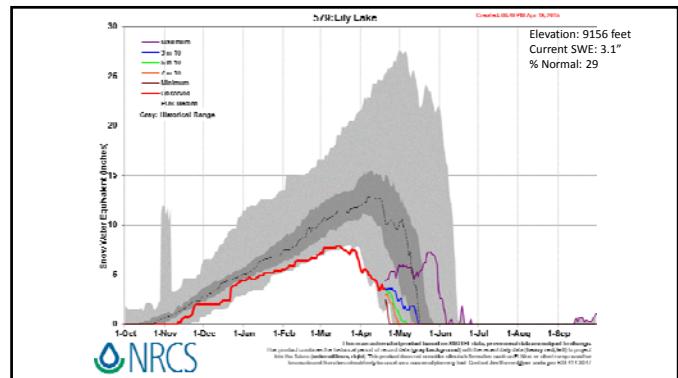
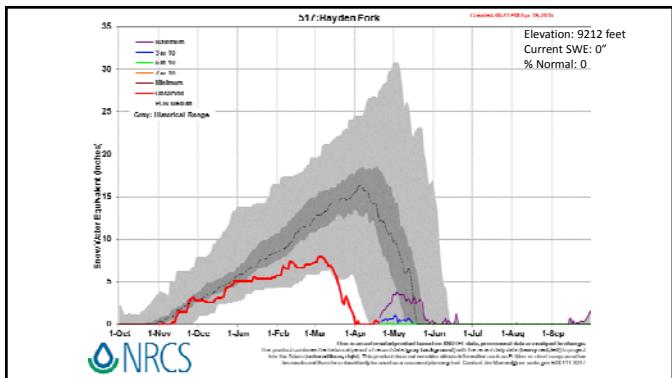
A discussion on increasing the annual assesment may be necessary.

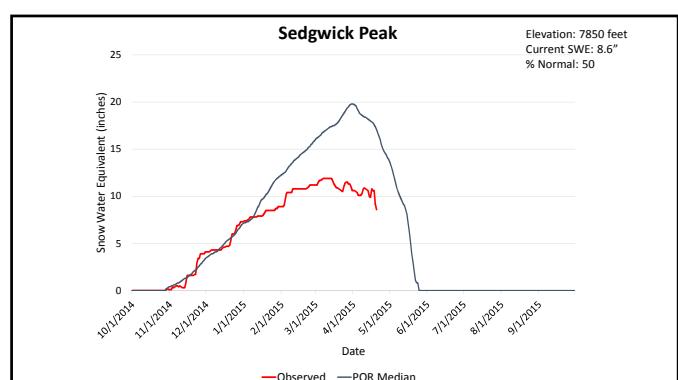
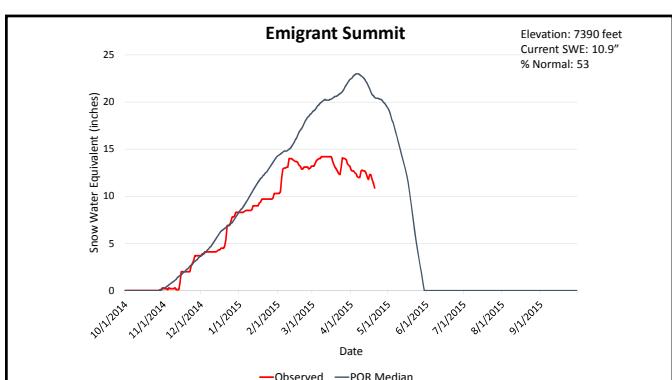
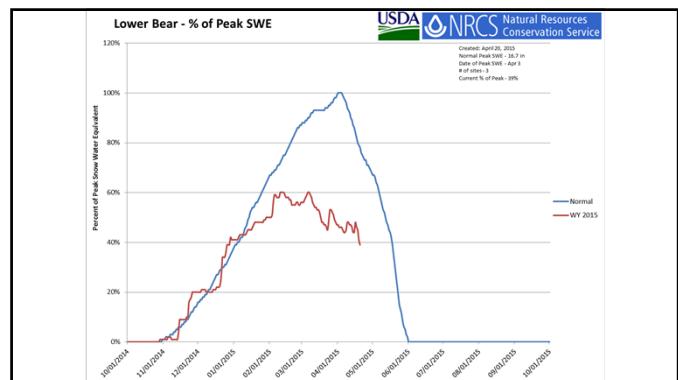
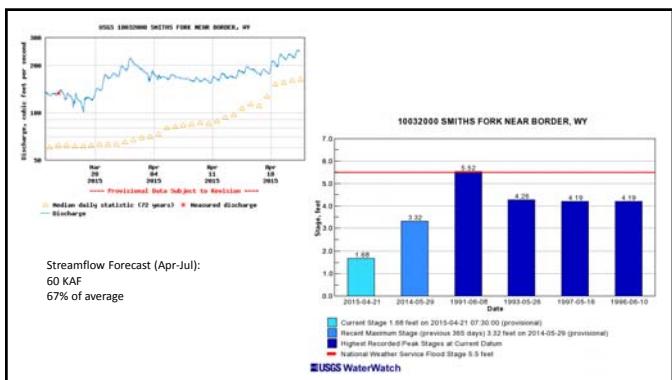
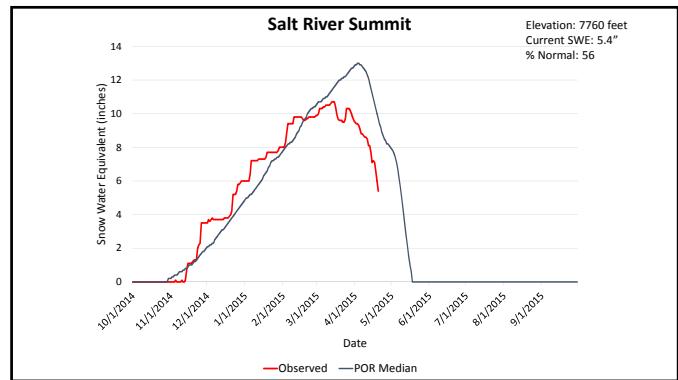
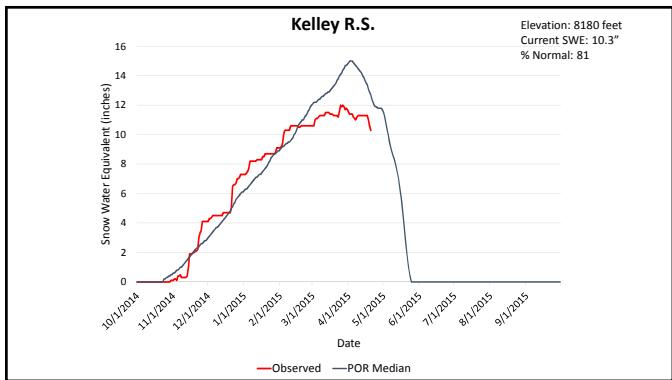
2015 Water Supply Outlook Report

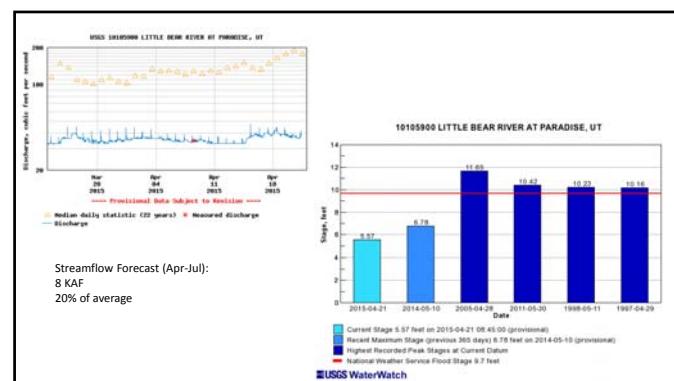
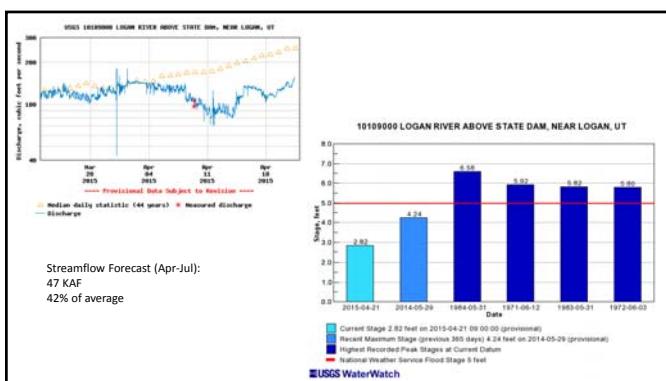
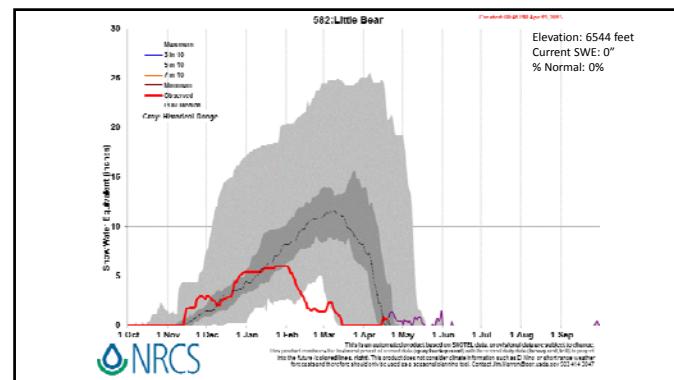
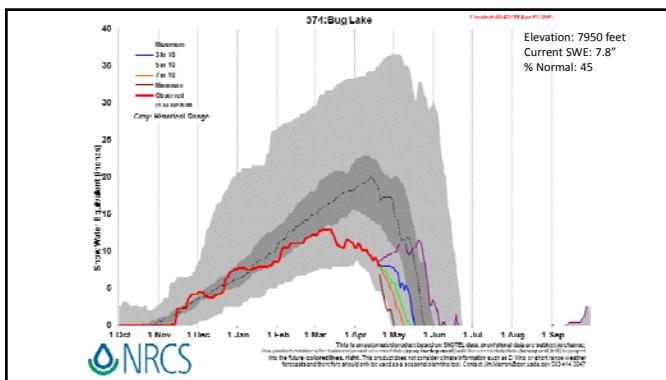
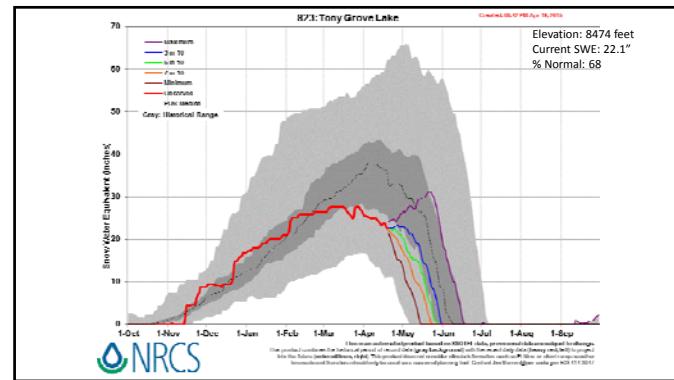
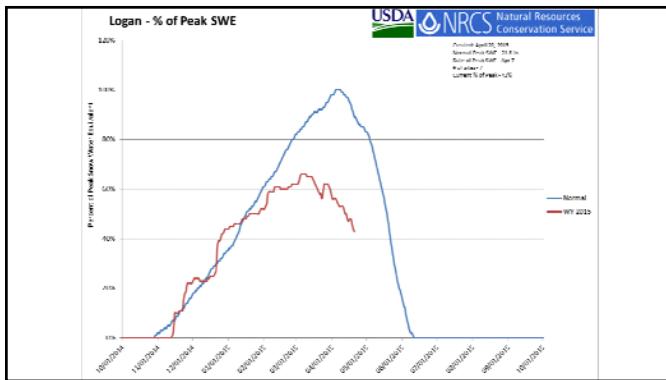
April 21, 2015

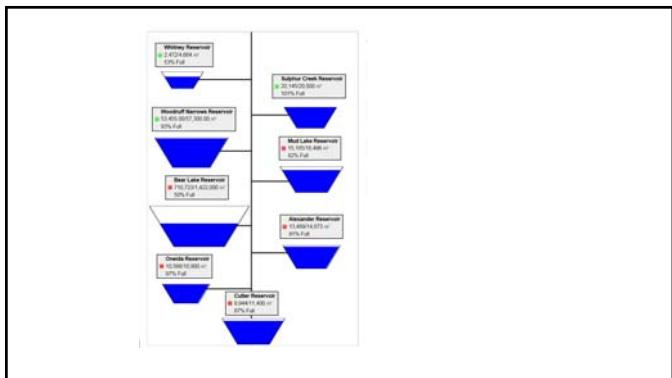
Troy R. Brosten, NRCS/Snow Survey







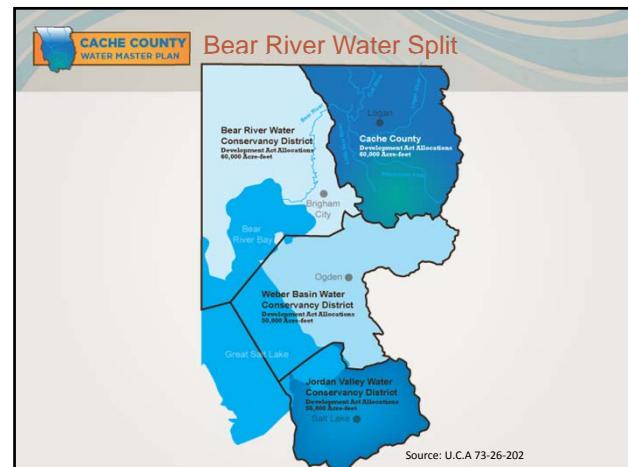
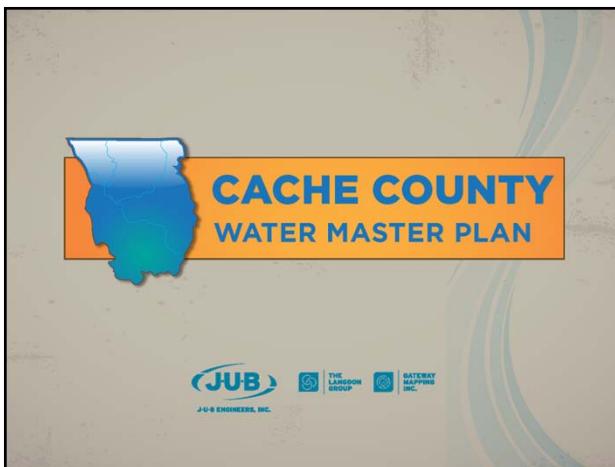




Summary

- Bear River Basin SWE currently at 50% of normal.
- Reservoir storage at 50 (smaller reservoirs are >75% full).
- Forecasted Apr-Jul streamflow 10 – 67% of average.
- Streamflow peak will likely occur ~2 weeks early (weather dependent).
- Low snowpack + warm temperatures = inefficient runoff.

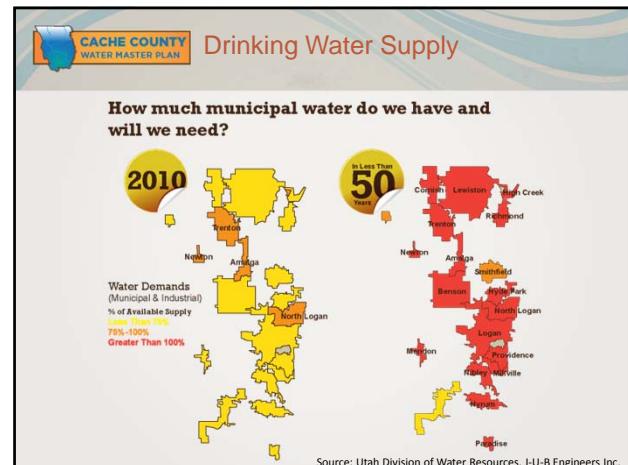


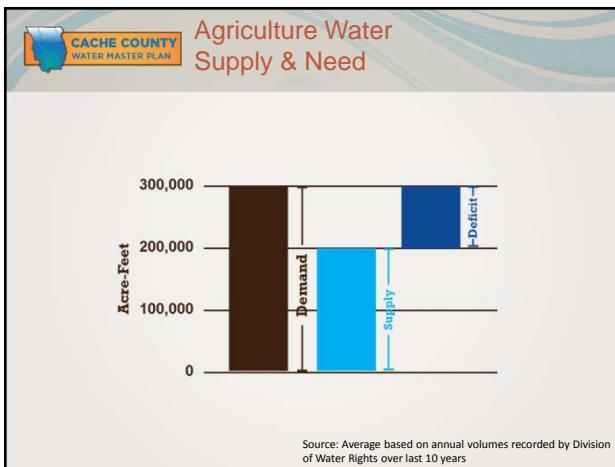


CACHE COUNTY WATER MASTER PLAN

Master Plan Stakeholders

| | | | | | | |
|---|---|---|---|--|--|--|
| Alan Luca North Logan City | Jon Haddan Mendon City | Leah Meeks USU Civil Engineering | Niall Allen USU Extension | Don Harla Wellsville City | Sharon Vaughn Benson Irrigation Co. | Greg Henson Little Bear River Commissioner |
| Jim Gass Smithfield City | Bob Barrett Fish and Wildlife | Colleen Corder BRAG | Markie Cowen BRAF/CropCoop | Colleen Gribble Bear River Basin Commission | Donna Spillert Logan Island | Tony Johnson Millville City |
| Ann Armstrong USD 14D Student & Family Support | Jon White Blacksmith Fork Soil Conservation District | Lee Awood Paradise Town | Roland Jeppesen Spring Creek Water Conservation District | Paul James Hyrum City | Doug Clasen River Heights City | Jack Draker State Legislator |
| Jim Wixson Bear River Commissioner | Bob Fotheringham Cache County | Bruce Bishop USU | Markwae Adkins Richmond City | David Evans Logan City | Ron Salvesen Utah City | Val Potter Cache County |
| Art Morris Logan Hollow Canal Commissioner | Josh Runihan Cache County | LeGrand Bier Utah Association of Special Education Professionals | Matthew Baldwin Padilla Ranch | Steve Thatchar Millville Irrigation | Steve Tjelmeland Spring Creek Cache Conservation District | Vernon Jorgensen Utah State Water Conservation District |
| Bill Baker River Heights City | Kathy Robison Retired USU Professor | Bruce Kamm North Cache Soil & Conservation District | Max Piec Cornish Town | Peter E. Kung Logan River Water Conservation District | Ed Cottle West Cache Irrigation | Jeff Hall Lehi City |
| Jim Williamson Spring Creek Water Company | Boyd Humphreys Providence Pioneer Irrigation Company | Lyle Hilliard State Water Engineer | Cory Yates Cache County | Mike Goulding Hyde Park City | Scott Leishman Wellsville East Field Irrigation Canal | Will Atkin Utah Office of Water Rights |
| Bill Bowe Citrus | Bryce Olsen Environment | Bryce Olsen Cache County | Marisa Egbert Cache County | David Rosenberg Utah Association of Cache County | Gordon Ziller Cache City | Zac Covington BRAG |
| Joanna Endter-Wada Utah | Karen Lemon Cache County | Craig Butars Cache County | Nancy Mersin USU | Ed Cottle West Cache Irrigation | Thad Erickson Utah State Water Policy Advisory Board | |
| Bill Cox Rural Water Commissioner | Clear Allard Utah Water Conservation Company | Randy Eck Providence City | Eric Mills Wellsville-Mendon Irrigation District | Eric Mills Division of Water Resources | Grant Koford Utah State Water Policy Advisory Board | |
| Joe Fuhriman Nibley Irrigation | Clark Israelson Utah | Richard Stevens USU | Nick Galloway Benson Water Conservation District | Scott Tropp Skyline Irrigation | Jeff Hall Lehi City | |
| Bill Young Logan City | Dane Kimball Richmond | David Zook Nibley City | Richard Bay Jordan Valley Water Conservancy District | Todd Adams Division of Water Resources | Will Atkin Utah Office of Water Rights | |
| | | | Marisa Egbert Cache County | | | |
| | | | Nick Galloway Benson Water Conservation District | | | |
| | | | Richard Bay Jordan Valley Water Conservancy District | | | |
| | | | Evans L. Olsen Division of Water Resources | | | |
| | | | Mark Anderson Attorney for USD | | | |



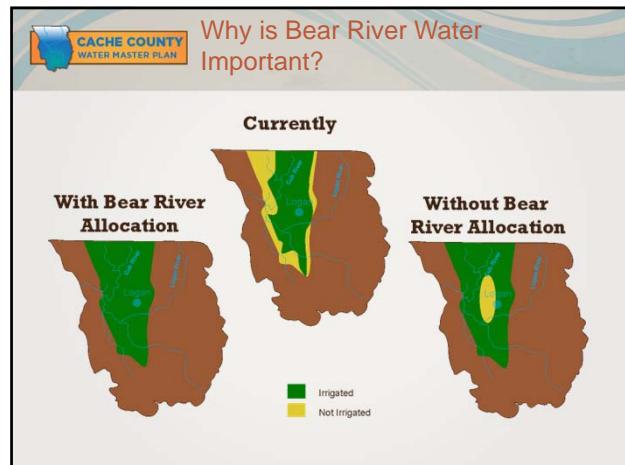
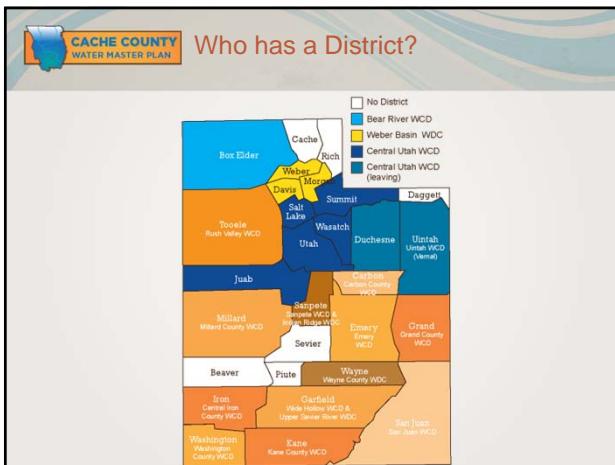


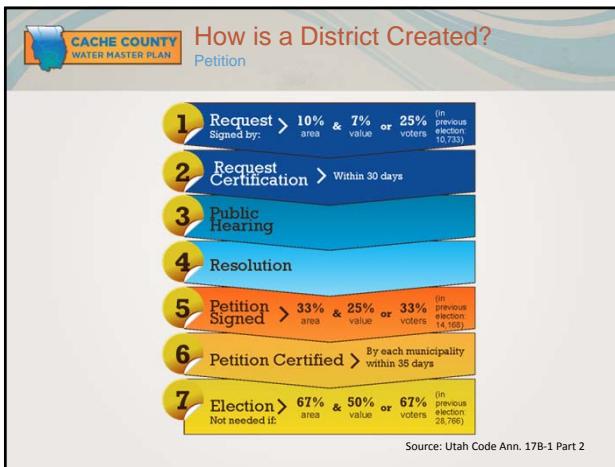
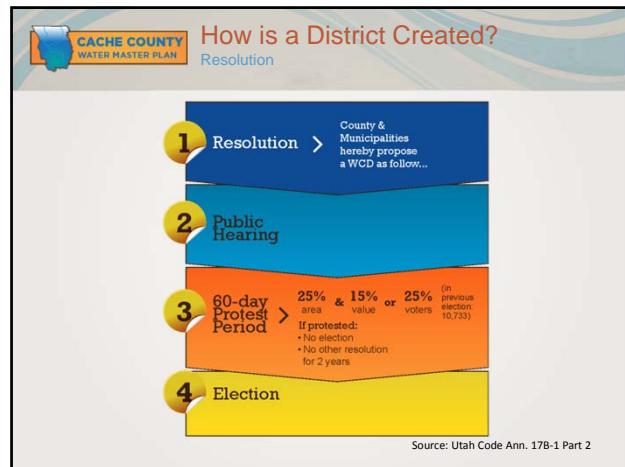
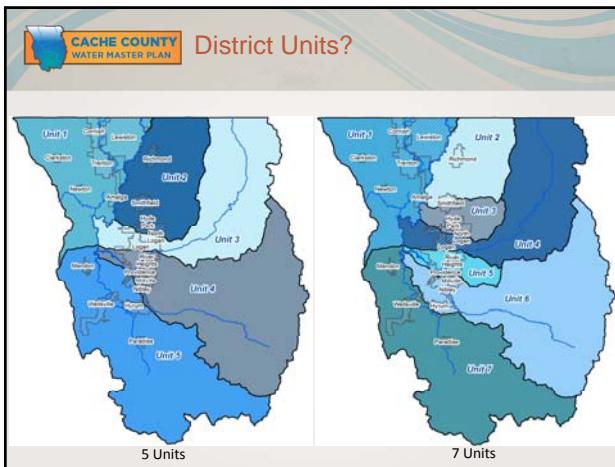
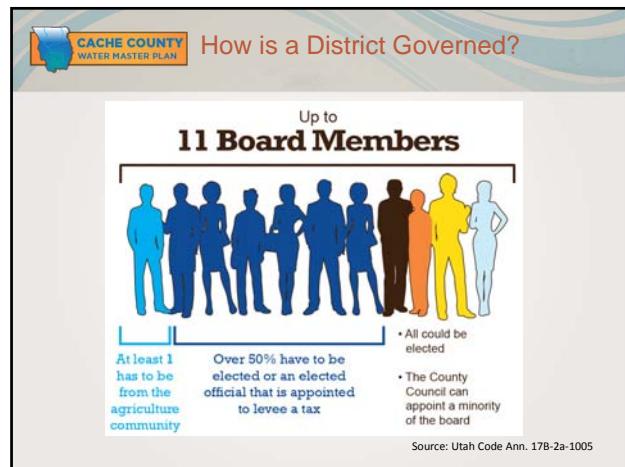
- CACHE COUNTY WATER MASTER PLAN**
- ### Primary Recommendations of Water Master Plan
- Improve Water Conservation
 - Protect and Develop Bear River Water Rights

CACHE COUNTY WATER MASTER PLAN

How Can We Conserve and Protect Our Water?

| Achieves Objective | Continue with Current System (Water Manager) | Water Master with more Resources (Additional funds and staff for projects) | Special Service District | Water Conservancy District |
|--|--|--|--------------------------|----------------------------|
| Water Supply Protect Bear River allocation | ○ | ● | ● | ● |
| Governance Represent all County water users | ○ | ○ | ● | ● |
| Implementation Promote collaboration | ○ | ● | ● | ● |
| Environment Monitor or improve environmental quality | ○ | ● | ● | ● |





CACHE COUNTY WATER MASTER PLAN

Bear River Development Schedule (DWRe)

| TASK | YEAR | | | | | | | | | | | | | |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
| Real Estate Acquisition | | | | | | | | | | | | | | |
| Government Parcels | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Private Parcels | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| NEPA Process | | | | | | | | | | | | | | |
| Baseline studies and monitoring | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 404 Permit application and USACE processing | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| NEPA Compliance | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Mitigation Development | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Design and Construction (Project completed five years before estimated need) | | | | | | | | | | | | | | |
| Construction Funding | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Design (Three year design process) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Bidding (One year bidding period for major project packages) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Construction Begins (Five year construction period, major project) | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Project Water Supply Needed | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

Source: Utah Division of Water Resources



District Purpose

The purpose of a district in Cache County is to protect and conserve our water interests. The primary interests in this regard are:

- Secure our Bear River allocation
- Promote water conservation
- Safeguard adequate amounts of water for the future



Responses to Concerns A District Will Not:

- “Pool” existing water rights from municipalities or irrigation companies
- Interfere with local management of water systems
- Build a castle on the hill (spend irresponsibly)
- Manage rights of individual cities, irrigation companies, or other private rights



Responses to Concerns A District Will:

- Protect our Bear River water rights
- Improve water conservation
- Facilitate regional water projects where needed
- Keep remaining water here
- Provide a governing board that is focused only on water issues
- Unify our county into a stronger voice
- Provide more clout with the state legislature on water issues that affect us
- Provide representation for all citizens



Why Now? What has Changed?

- More than half of district board members must be elected
- Groundwater management plan enacted in September 1999
- Bear River development has started on the Wasatch Front
- A Conservancy district will provide community focus for water conservation
- County population has increased by more than 30% since 1999 and will double between now and 2060

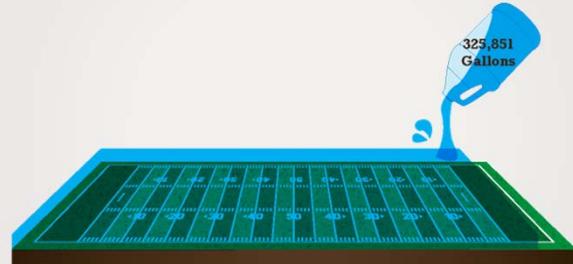


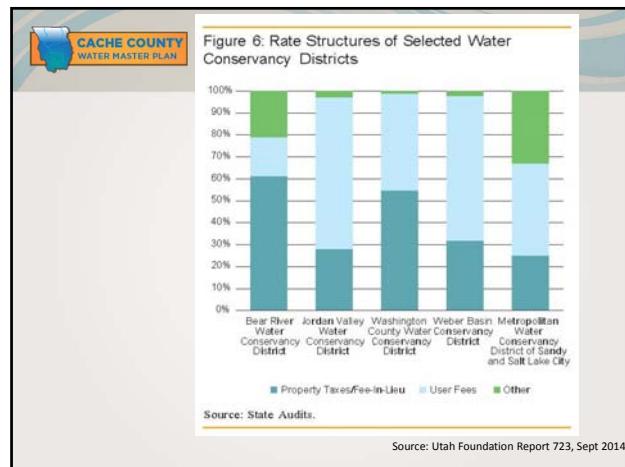
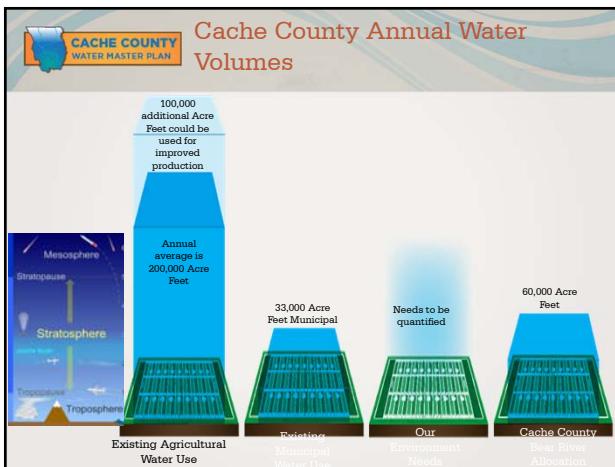
What Next?

- Questions
- Input



What is an Acre Foot of Water?





**A SUMMARY OF THE
USGS STUDIES OF BEAR LAKE AND ITS CATCHMENT**
Jack Barnett
April 2015

The Clinton administration determined it was important to learn from science what could be observed about climate change. One of the efforts suggested by the USGS was authorized. The plan was to look for a lake where long-term records could be obtained from the sediments in the lake bottom. After searching for the best lake, agreement was reached that Bear Lake would be the place to look.

Several millions of dollars were authorized to be spent and a large and impressive group of scientists were employed to conduct many studies. This team of scientists was led by Joseph G. Rosenbaum. Just for ease of reference, I will refer to the studies and team as a group as the "Rosenbaum studies or team."

In 1996 the first effort began with the acquiring of three cores from the bed of Bear Lake. More coring was to follow. These cores were sliced into many samples and sent to several experts and geologic laboratories. The project was authorized to use collected information to go back a few tens of thousands of years and study past climates. While the cores were being examined, other scientists looked for more clues in the landscape around Bear Lake.

It was quickly learned that the Rosenbaum team had hit the jackpot. They learned that in parts of the Bear Lake bed sedimentation had occurred at a very slow rate. This meant that a very short section of core could take one back a long period of time into the Lake's history. In fact, they determined that they had cores that took the sediment record back as much as 250,000 years. For the team this created a problem as the study was authorized to only look back a few tens of thousands of years, yet they had very valuable information that needed to be studied. They worked around this issue and, with time, several papers were prepared.

Reading early drafts of these papers led the Bear River Commission to conclude that it would be most important for the findings to be published and preserved. The Commission also came to the conclusion that all of the papers were very technical and written in such a way that most residents of the area would find the reports difficult to understand. With time, there were 18 papers prepared and 15 of them were published in 2009 by the Geological Society of America as that Society's "Special Paper 450."

The Commission searched for a way to have a qualified team write a summary report that could be easily read and understood. None of the technical authors stepped forward. With the approval of the USGS, the Commission worked with the Utah Geological Survey to have a desired publication prepared. This effort resulted in a UGS publication titled "Why is Bear Lake So Blue?" This brief booklet does use some facts from the Rosenbaum publications and it answers some intriguing questions, but it fell far short of the Commission's goal. As of this writing, the Commission's objective has not been reached.

There is a copy of all 18 papers in the Bear River Commission library and the Commission also has an electronic copy of all 18 papers. The following is this writer's attempt to identify at least some of the key findings of each report. The introductory report and the following 14 reports listed are found in the GSA paper. The last three were not published by the GSA.

REPORTS PREPARED BY THE USGS ON THE BEAR LAKE CATCHMENT

A. *Introduction to Paleoenvironments of Bear Lake, Utah and Idaho, and its catchment.*

Joseph G. Rosenbaum and Darrell S. Kaufman.

This brief paper is, as the title indicates, an introduction to the many studies. It describes the work done and some of the conclusions. It was not intended to be a summary of all the findings.

1. *Climatic and limnologic setting of Bear Lake, Utah and Idaho.* Walter E. Dean, et al.

This short paper describes the Lake as it is today. It discusses the water chemistry of the spring-fed Lake as it was before the diversion of the Bear River into the Lake and the change in chemistry when the River was diverted about 100 years ago into the Lake.

2. *Geology and geomorphology of Bear Lake Valley and upper Bear River, Utah and Idaho.*

Marith C. Reheis, et al.

The report describes the Lake as being in a fault-bounded valley. It tells of periods when the Lake was much higher than the present level. The Bear Lake Valley once filled to as far north as the Nounan Narrows, and the current Lake is a small remnant of the larger Lake with a drop in elevation of about 80 feet.

3. *Late Quaternary sedimentary features of Bear Lake, Utah and Idaho.* Joseph P. Smoot.

This report describes the clay, sands and gravels deposited (sediments) in and around the Lake over an extended period of time. It describes how changes in Lake chemistry also change minerals deposited. This gives an indication as to when the Lake was connected to the River.

4. *Isotope and major-ion chemistry of groundwater in Bear Lake Valley, Utah and Idaho, with emphasis on the Bear River Range.* Jordon Bright.

This investigation looks at the chemistry of the groundwater reaching the Lake. It also analyzes isotopes in the water. It is concluded that when the River is not flowing into the Lake, 99 percent of the dissolved minerals in the Lake come from streams and springs draining the Bear River Range to the west of the Lake; hence, very little water reaches the Lake from the Bear Lake Plateau to the east of the Lake.

5. Radiocarbon ages and age models for the past 30,000 years in Bear Lake, Utah and Idaho.
Steven M. Colman, et al.

The report, using radiocarbon dating, looks at pollen, ostracods and carbon found in the Lake sediments as revealed by the core samples. This allows for the creation of age models over the last 30,000 years. The age model is referred to as the backbone in reconstructing past environments. Ostracods are very small bean-shaped animals, with some being just visible to the naked eye. Their forms have changed with time, which make them good guide fossils.

6. Allogenic sedimentary components of Bear Lake, Utah and Idaho. Joseph G. Rosenbaum, et al.

The study looks at the mineralogy, chemistry and magnetic properties of the sediments in the Lake found in the cores. It identifies carbon-rich deposits brought to the Lake by waters from the Bear River Range when the River did not flow into the Lake. It also describes quartz-rich layer deposits by the River into the Lake as the River drains from its headwaters in the Uinta Mountains. Iron-rich red layers are also identified as coming from the River during ice age glacial melt.

7. Endogenic carbonate sedimentation in Bear Lake, Utah and Idaho, over the last two glacial-interglacial cycles. Walter E. Dean.

This investigation looked at the carbon-rich sediments deposited over the last two periods between the last two glacial periods. It discusses sediments over the last 220,000 years. Looking more recent in time, it notes that chemistry started to change about 11,000 years ago, indicating a withdrawal of River waters from the Lake. The chemistry of minerals would infer that, for the most part, the River did not flow into the Lake from 7,000 years ago until man diverted the River into the Lake about 100 years ago. Most of the time, however, over the last 220,000 years, the River was connected to the Lake.

8. Ostracode endemism in Bear Lake, Utah and Idaho. Jordon Bright.

The author found that Bear Lake is one of few lakes worldwide with its own unique species of ostracods. These are called endemic species and there is a correlation with the endemic fish species found in Bear Lake. There is an implication that the environmental setting in the Lake has been somewhat stable for hundreds of thousands of years despite changing climates. This stability can be attributed to the stable flow of streams and groundwater from the Bear River Range to the west of the Lake.

9. A 19,000-year vegetation and climate record for Bear Lake, Utah and Idaho. Lisa A. Doner.

This study analyzes pollen found in the cores taken from the Lake. Glacial and non-glacial periods can be identified. Pollen is a good indicator of climate change. The pollen from the

cores indicated a warm and dry period from 12,000 to 7,500 years ago. Generally, the past 7,500 years have been more wet and cool.

10. A 19,000-year record of hydrologic and climatic change inferred from diatoms from Bear Lake, Utah and Idaho. Katrina A. Moser and James P. Kimball.

Diatoms are single-celled algae. Their growth in the Lake is changed as Lake levels change and as the Lake may be covered with ice. Diatoms can be used to track changes in sediments carried into the Lake. The study concludes that from 19,000 years ago to 14,000 years ago there is a good fossil diatom record, perhaps because of increased turbidity of water coming into the Lake from glacier-fed streams and ice cover. The record of the diatoms indicates that the Lake was tied to the River from 14,000 years ago to 7,600 years ago. There is a suggestion of drier conditions from 3,000 years ago to the present.

11. The glacial/deglacial history of sedimentation in Bear Lake, Utah and Idaho. Joseph G. Rosenbaum and Clifford W. Heil, Jr.

It is noted that the Bear River is the largest river in the Great Basin and, at times in the past, it has contributed to Bear Lake. The cores can be used to determine where the majority of the sediments in the Lake come from as the sediments from the River draining the Uinta Mountains are different from the sediments contributed to the Lake by local streams. The sedimentary record indicates glaciation, and it was found that, as to the Lake, maximum glaciation occurred as Lake Bonneville reached its greatest size about 20,000 years ago. Glacial sediments are also found in Bear Lake that predate the rise of Lake Bonneville. Drier conditions may have occurred at Bear Lake when Lake Bonneville was falling.

12. Sedimentary constraints on late Quaternary lake-level fluctuations at Bear Lake, Utah and Idaho. Joseph P. Smoot and Joseph G. Rosenbaum.

Evidence of the lake-level history of Bear Lake for the past 25,000 years is of three types. Shorelines carved into the land above the modern Lake level is one indicator, but is only preserved in some areas. Grain size in Lake cores is another indicator. Sedimentary texture is also a tool. A model was created to include all three indicators. Two maps were created, one showing grain size in the sediments of the Lake when the Lake was at maximum historical elevation, and the other when the Lake elevation was about 80 feet below the historic level. Using this approach, the elevation of the Lake can be determined at various times in the past. For example, the model shows that prior to 18,000 years ago, the Lake level was stable and near the modern level and probably overflowing. However, between 17,500 years ago and 15,500 years ago, the Lake was about 132 feet below the modern level. Several Lake levels higher than the modern Lake level are also indicated between 8,500 and 700 years ago.

13. Paleomagnetism and environmental magnetism of GLAD800 sediment cores from Bear Lake, Utah and Idaho. Clifford W. Heil, Jr., et al.

Ancient records of the earth's magnetism are also a tool. The authors divided the sedimentary sequence in Bear Lake into zones. As the Lake becomes more saline because of the reduction of fresh water inflow and/or increased evaporation, different minerals can form. For example, as the Lake becomes more saline, pyrite is formed. Magnetic features can be used to compare climate over large areas; however, the Bear Lake record only suggests feasible possibilities of this type of correlation between Bear Lake catchment and areas far removed.

14. A quarter-million years of paleoenvironmental change at Bear Lake, Utah and Idaho. Darrell S. Kaufman, et al.

Bear Lake was found to be one of the longest-lived lakes on the North American continent. The cores indicate a spring-fed alkaline lake where carbonate-bearing sediments have accumulated continuously. A continuous, almost 400-foot core contains evidence of hydrologic and environmental change over the last two glacial-interglacial cycles. Precipitation of carbon-rich minerals has been occurring and there are massive silty clay and marl deposits. The core indicates the influence of the River and Lake level changes. During most of the last quarter-million years, the River has been tributary to the Lake. The paper provides a figure that shows four maps of various lake levels and Lake and River relationship. One of these shows a small and isolated lake and another shows a much-expanded Bear Lake with its outlet far to the north near Nounan.

The following three papers were not published in the GSA Special paper 450, but may be found in the Commission's library.

15. Unusual Holocene and late Pleistocene carbonate sedimentation in Bear Lake, Utah and Idaho, USA. Walter Dean, et al.

"Bear Lake hydrology combined with evaporation created an unusual situation that produced large amounts of aragonite, but no evaporate minerals." This statement by the authors explains the reason for the writing of the paper. The salinity of the Lake increased about 11,000 years ago and aragonite became the dominant mineral accumulating in the bottom sediments. Lake forming aragonite is usually found in small saline lakes where salinity varies considerably; however, other evidence indicates that the chemistry of the Lake has remained fairly constant for a long period of time.

16. A continuous 250,000 yr. record of oxygen and carbon isotopes in ostracode and bulk-sediment carbonate from Bear Lake, Utah-Idaho. Jordan Bright, et al.

Oxygen and carbon isotopes were analyzed from the almost 400 foot long core and they indicated dramatic fluctuations in the Lake's hydrologic budget over the last 250,000 years. During most of the time, the Lake was fresher than the modern Lake. Brief intervals that are an exception to this finding can be identified in the isotope record in the core.

17. Age model for a continuous, ca 250-ka Quaternary lacustrine record from Bear Lake, Utah-Idaho. S. M. Colman, et al.

The sediments sampled by the almost 400 foot drill core from the Lake comprise one of the longest lake sediment sequences recovered from an existing lake and the age dates back beyond the age of radiocarbon dating. Using other information found in the core, an age dating model was created. This age model represents the best estimate of the chronology of deposition in Bear Lake and might be used to address paleoclimate questions, including the relationship of the Bear Lake area to other areas.

SUMMARY OF WATER YEAR 2014 BEAR LAKE OPERATIONS AND IRRIGATION ALLOCATION FOR 2015

| Date | Hydrologic Information/Event | Contents (% of Full) Discharge (% of Normal) |
|----------|--|--|
| 10-01-13 | Bear Lake Beginning Elevation - 5,912.65 ft. | 664,460 af (47%) |
| 11-16-13 | Bear Lake Low Elevation - 5,912.32 ft. (see note 1) | 642,778 af (45%) |
| | Rainbow Inlet Canal Discharge | 163,000 af (62%) |
| | Bear River Discharge Below Stewart Dam | 2,160 af |
| | Bear Lake Net Runoff (Computed Total Inflow less Lake Evaporation) | 180,000 af (56%) |
| 06-11-14 | Bear Lake High Elevation - 5,914.14 ft. | 763,335 af (54%) |
| | Outlet Canal Releases; 10/1/13-10/4/13, 10/24/13-10/26/13, 5/24/2014 - 9/26/2014 | 202,000 af |
| 07-14-14 | Outlet Canal Maximum Release - 1,543 cfs | |
| | Bear Lake Storage Release (see note 2) | 108,000 af |
| 09-30-14 | Bear Lake Ending Elevation - 5,912.28 ft. | 640,155 af (45%) |
| | Bear Lake Settlement Agreement "System Loss" Volume (see note 3) | 15,500 af |

Notes

1 Low contents prior to start of storage.

2 Net irrigation storage release from Bear Lake, subtracting Rainbow inflow and the decreed adjustment for the natural yield of Bear Lake and Mud Lake area.

3 Due to uncontrolled flow from (welcome) rain events. Whenever water flows below Cutler during the irrigation season any storage water in the system at Cutler is the first water out. Natural flow goes to irrigators.

Current Status

3

Bear Lake elevation as of April 20, 2015 was 5914.38 feet. The seasonal low elevation of 5912.32 feet occurred on November 16, 2013. The causeway is open and the water is entering Bear Lake. The Bear Lake Outlet Canal is currently closed.

Irrigation

Bear Lake Storage Irrigation Allocation of 224,000 acre-feet was declared on April 7, 2015.