



## BEAR RIVER COMMISSION

106 West 500 South  
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Bountiful, Utah 84010-6203  
801-292-4662  
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**CHAIR**  
Jody Williams

**IDAHO  
COMMISSIONERS**  
Gary Spackman  
Kerry Romrell  
Curtis Stoddard

**UTAH  
COMMISSIONERS**  
Todd Adams  
Blair Francis  
Charles W. Holmgren

**WYOMING  
COMMISSIONERS**  
Greg Lanning  
Adrian Hunolt  
Tim Teichert

**ENGINEER-MANAGER**  
Don A. Barnett

## MINUTES

### BEAR RIVER COMMISSION REGULAR MEETING ONE HUNDRED THIRTY-SEVENTH COMMISSION MEETING NOVEMBER 17, 2020

**I. Call to order** – The regular meeting of the Bear River Commission was called to order by Chairwoman Jody Williams at 1:30 p.m. on Tuesday, November 17, 2020. This was the one hundred thirty-seventh meeting of the Commission. Williams explained that due to the continuing pandemic, they are again meeting on a web platform. Williams noted that the Records and Public Involvement Committee and the Operations Committee met earlier in the day and the Water Quality Committee met the previous day. Chair Williams and Don Barnett then detailed those who were in attendance at the meeting. An attendance roster is attached to these minutes as Appendix A.

Williams then acknowledged the passing of a previous commissioner, Gordon Thornock. He represented Wyoming's Central Division from 2003 to 2016 and was a dedicated man in all aspects of his life. His knowledge and on-the-ground experience in water administration were most helpful as he focused on safeguarding and enhancing the Bear River. Commissioner Thornock was a good man, a good listener and he was always prepared.

Commissioner Tim Teichert also said a few words relative to Commissioner Thornock. He indicated that he was a great friend, a great neighbor and a great mentor. He knew that Commissioner Thornock felt it an honor to serve on the Commission and he enjoyed working with Jade, Kevin and Kevin.

Williams then addressed the agenda for the meeting. There were no changes made to the agenda and it was approved by the Commission. A copy of the agenda is attached to these minutes as Appendix B.

**II. 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 April 21, 2020. A motion was made to approve the minutes with no changes. The motion was seconded and unanimously approved by the Commission.

**III. Commission business** – Chairwoman Williams explained that there was a need to update the Commission's Bylaws to allow for meetings to be held "in person or through other means" which would include current and future technology, allowing for reasonable participation of those involved. This change would be part of Article IV of the Commission Bylaws. There was a motion to approve the change as explained, which passed unanimously. (See Appendix C.

**IV. Reports of Secretary and Treasurer** – Commissioner Adams asked Randy Staker to go through the 2020 budget closeout and the expenditures to date. Staker noted that in the 2020 budget, the water quality amount was a little bit higher than usual due to the timing of payments. Interest on savings amounted to about \$2,800 and total expenses were just a little over \$134,000, leaving a cash balance at the end of the fiscal year of \$142,883.66. Staker then showed the Statement of Income and Expenditures through November 16, 2020. He noted that Idaho's payment had recently been received but was not yet showing on the income from the states. A motion was made to approve the budget documents as shown, which was unanimously approved. (The financial statements are attached to these minutes as Appendix D).

**V. Great Salt Lake** – Utah Representative Tim Hawkes gave a presentation on a report associated with Utah Resolution HCR-10 which he ran a couple of years earlier dealing with Great Salt Lake. This was a pending report which had not yet been released (see presentation in Appendix E). He commented that many people don't understand the importance of the Great Salt Lake. There is approximately \$1.6 billion in economic activity each year associated with the Lake. In the Western Hemisphere, the Great Salt Lake is a very important ecosystem for migratory birds. Many products depend on the Great Salt Lake. Studies show that the Lake affects local weather, moderates temperature, plays an important role in the water cycle and helps keep dust down. The Lake has natural cycles, but it is also affected by human activity. If you average trend lines over the years that have been recorded, there is a downward decline in surface elevation and record low lake levels. Fortunately, the Lake is still functioning and supporting the beneficial uses that are in place. If the Lake continues to decline, there is a potential risk to the benefits and values of the Lake. Hawkes noted that if you look around the world, there are a lot of lakes which are going away, with the effects being catastrophic.

Representative Hawkes explained that all of this led to the resolution that he ran in 2019. This resolution emphasized the importance of Great Salt Lake and the peril it is facing, along with the need to find ways to protect its water supply. It encouraged some of the agencies in Utah to combine with other entities and stakeholders to make recommendations about what could be done. They put together a steering group which came up with ideas that were grouped into certain categories. This led to a set of recommendations that could be accomplished over time and areas of focus to address. They also looked for ways to engage the public and stakeholders and to educate them on the subject. They also wanted to get the state agencies to communicate with each other on the important decisions that need to be made. Hawkes felt it important that as the State of Utah plans for growth, it looks seriously into water infrastructure at the same time. The report coming back from the steering group is that the Great Salt Lake is important and this is a significant challenge. It is important to work together for win/win solutions. There is a sense of urgency to lay the groundwork and move forward.

**VI. 2020 Water Supply** – Jordan Clayton from NRCS Snow Survey reported that snowpack conditions for FY 2021 started off very well, but he cautioned that it was too early to make any assumptions going forward. He showed a visual for snow water equivalent (SWE). He noted that the previous year had good snowpack up until about April when the bottom fell out and it did not recover. Clayton showed graphs of the SWE in the subbasins. He showed similar graphs for precipitation in the basin, which was just about normal. Another graph showed snow depths across the State of Utah. Clayton pointed out the Bear River Water Availability Index going back to 1981, along with graphs for Woodruff Narrows and the Little Bear. He gave the group a strong word of caution that there needs to be a significant snow pack this year to even have a normal runoff. He noted that we are entering this snowpack season with well below average soil moisture, which is quite alarming because these extremely dry soils are going to reduce the efficiency of the runoff when that snow

melts in the spring. He noted that the vast majority of the state is either in extreme drought or exceptional drought. Clayton showed a graph which compared statewide reservoir levels of the current year to the previous year. He noted that in the November Utah Climate and Water Report there are several graphs assessing the streamflow forecasts. These forecasts were significantly higher than the actual observed flow volume, probably due to low precipitation after the forecast date. He pointed out several ideas for improving forecasts (see Appendix F).

**VII. Water Quality Committee report** – John Mackey gave the Water Quality Committee report from the previous day's meeting. He noted that the Committee had been working on a water quality strategic plan over the last several years. The plan has been updated to more specifically identify areas where the states can work together and share resources and results in the water quality work that is being done in the Bear River.

The group agreed to move ahead with a cooperative three-states water quality assessment effort. This is a high-level monitoring effort in conjunction with other sampling monitoring efforts by each of the states that focuses in the Upper and Central parts of the watershed. The intent is to take a broad look at water quality uses in support of those uses across state lines. The effort has been initiated so planning can get underway and move forward by summertime.

There was a very interesting report from Mike Hess and Ryan Rowland from USGS on the five-year water quality platform study on Bear Lake. They have taken high frequency data at the two buoys that are placed each year on the lake and incorporated those into a data visualization tool that is now available and live online. It is very interesting to see what is happening in the lake on almost a real time basis. There is also quite a number of water quality parameters, including chlorophyll and some harmful algae species or indicators.

David Cottle with Bear Lake Watch informed the committee that the Bear River Association of Governments (AOG) has funded a \$90,000 study to look at the economic value of Bear Lake. They expect to award the contract to conduct that economic study in the next week or so.

There was a very interesting presentation from Brad Parry with the Northwestern Band of the Shoshone Nation on a Battle Creek project. This is on a piece of land near Preston important to the tribe. There has been some watershed deterioration, and water quality is poor there. They intend to do some restoration work. The whole group was very interested and excited about the work that is being proposed.

The group is also moving ahead with a memorial for Jack Barnett. The memorial has been selected. When purchased and procured, it will be placed along the lake recognizing Jack Barnett.

Lastly, there was a lively conversation about harmful algal blooms, mostly because these are issues within each of the three states. Because these are becoming much more prevalent, the states are expending a lot of resources with the hope that the states can work together in cooperating and supporting each other with information and technology updates.

**VIII. Records & Public Involvement Committee report** – Commissioner Holmgren reported on the meeting of the Records & Public Involvement Committee held earlier in the morning. There was a report from Ryan Rowland with USGS. He discussed the Utah Water Science homepage, including the new water level gage at Bear Lake and the new National Water Dashboard, which is a new way of presenting data throughout the nation, and specifically Bear Lake. Holmgren indicated that there is

a new data set that will provide historical surface water data studies of Bear Lake. Much of the information comes from PacifiCorp. This is not currently available, but will be in the near future.

USGS indicated that they had an increased cost of gages by 2.5 percent but had no funding to cover the USGS cost share, so the Commission ended up spending an additional 4 percent on gages for the year. The committee recommended that the Commission include the Wyoming gage at Randolph in the Biennial Reports going forward. This is not a USGS gaging station, but rather a Wyoming State Engineer's office stream flow gage. Holmgren reported that Wyoming has two new pump stations. There is also a new gage installed at the Benson Marina at Cutler Reservoir.

Holmgren noted that the 20<sup>th</sup> Biennial Report had been completed and sent out. Information has been gathered for the 2019 chapter and the data for the 2020 chapter is being gathered. These two chapters will be covered in the 21<sup>st</sup> Biennial Report and they were considering ideas for the cover of this report.

The "About" tab on the Commission's website will be completed and available soon. It will contain photos of the Commission members. Also, David Cottle with Bear Lake Watch brought up two items, the first being a BRAG study on the economic value of Bear Lake, and the second had to do with the possibility of redoing the Bear Lake/Mud Lake Symposium in 2021. The timing would depend on the status of the pandemic.

**IX. Operations Committee report** – Commissioner Hunolt noted that the Operations Committee met in the morning, following the Records Committee. The three commissioners were all in attendance. He turned the time over to Sam Swartz to give the report.

Swartz reported that the committee discussed the Upper Division distribution for 2020. Don Barnett gave a quick presentation on the water supply for the year. In the spring, things were looking good, but that changed as the year went on, leaving the Upper and Central Division with 82 percent and the Lower Division with 74 percent of their water supplies. She noted the percentage of fill at various reservoirs. Also, there were no compact restrictions as Bear Lake remained above 5911 ft. The Central Division did go into regulation.

Connely Baldwin reviewed the operations of Bear Lake storage and noted that 145,000 af had been released with 116,000 af for irrigation diversions.

There was a discussion on depletions estimates as they work to find a uniform method that can be used by all three states. They reviewed the depletions procedures and how the depletion rate was calculated. The goal is to seek the cumulative change in acres since the 1976 base maps. Updated line work on aerial photos should be done by the end of the year.

Will Atkin gave an update on the West Cache Canal which would involve the transfer of about 12 cfs downstream to the Cutler Pump Station. As it crosses the state line, it required approval by Idaho and Utah. Both states approved. Barnett added that the Commission should consider whether or not to add back in West Cache's water above the state line in order to match historic diversion records. The committee also discussed Thomas Fork transfers, Covey Canal improvements and new water use proposals of interest.

Connely Baldwin then addressed PacifiCorp operations at Bear Lake. He showed the statistics for water year 2020, along with the current status at Bear Lake (see Appendix G). He explained that they did operate for a good part of the previous fall and winter in flood control mode. They released some

water, but not much of it was pumped from Bear Lake. At the beginning of June they began to release irrigation water. It was most helpful to have a very wet June. However, the dry fall kept them from releasing water for high runoff management or flood control.

**X. Technical Advisory Committee report** – Kevin Payne, Chairman of the Technical Advisory Committee (TAC), reported that on March 12 the TAC met in person in Salt Lake City, chaired by Todd Adams. They discussed the Bear River stream gaging program, in particular the gages on Bear Lake, including the two water quality platforms. The Committee received comments regarding the environmental and watershed health issues which may affect the overall Bear River system. Members of the Nature Conservancy and the Audubon Society invited the Commission to participate with them in a potential resiliency and drought study for the Bear River watershed. They also heard from Great Salt Lake interests regarding concerns on lowering Salt Lake levels. Payne reported that Todd Adams was working with Utah State University to update the drought monitor so it does not include Bear Lake in the water supply for some local water users. The TAC also discussed water right transfers and other filings of interest.

Following the regular TAC meeting, a work meeting was held in the afternoon. There was a discussion about the 20-year Compact Review, including a few suggested edits and dates for completion. The TAC also discussed an update on depletions for 2020 and selected a GIS depletion committee which would be led by Sam Swartz. They also talked about municipal and industrial depletions. They talked about supplemental depletions, with the goal of finding a common method for all three states to use in this process. They were planning to work on that through the summer and meet again in September.

**XI. Management Committee report** – Commissioner Lanning reported that the Management Committee had met the previous afternoon. They discussed the Commission's budget and the fiscal report. They talked about Bear River and Bear Lake modeling, which is a work in process with a lot of details. It appeared that there may be an opportunity for some storage at Bear Lake which will have to be worked out. Commissioner Spackman discussed general adjudication in Idaho and the Bear River area. Lanning commented that he appreciated the definition of optimism from the State of Idaho – "half full." He noted that the Management Committee appreciated the efforts of the TAC in their diligent work on depletions. They discussed the possibility of a spring tour from Oneida to the Utah border. This would be dependent upon the situation with the pandemic at that time.

**XII. Engineer-Manager's report** – Don Barnett noted that there were no additional items to address that hadn't already been discussed on other agendas.

**XIII. State Reports – Idaho** – Commissioner Spackman reported on the filing of the request and the subsequent adjudication of water rights in the Bear River Basin, but there was no appropriation. He was concerned that there would not be sufficient money to fund the adjudication and the resources needed. Over the course of the last few months, the discussion with the legislators in the area, with the Governor's office in Idaho and with other water users has resulted in what he would characterize as unanimous support for the appropriation of money over approximately a ten-year period to adjudicate the water rights in the Bear River. They anticipate that the petition to the Court to commence the adjudication will be filed at the end of November or the first of December, with the legislative session beginning at the first of January 2021. The Legislature will appropriate sufficient funds so that they can do the necessary work and probably start in on the adjudication. When the Bear River adjudication is complete, there will only be one river basin in the entire State of Idaho that has not been adjudicated, which is a remarkable accomplishment by water users and all involved.

**XIII. State Reports – Utah** – Commissioner Adams noted that the Commission had heard a little bit about what is going on in Utah with HCR-10, as reported by Representative Hawkes. They also had a House Bill 41 that worked through some state policy amendments that were all encompassing and had some conflicting components. They are working with the Legislature to study those things and provide some reports and updates. The three states and PacifiCorp are still working on the Bear River/Bear Lake modeling efforts for a potential application. Adams commented on the dry water year of 2020 and the hope that things will improve.

**XIII. State Reports – Wyoming** – Commissioner Lanning commented that he had been in his new position as Wyoming State Engineer and serving on the Bear River Commission for one year. He was happy to be aboard and learning more about the Commission. He reported that Wyoming is still dealing with declining revenues which have amounted to an additional 15 percent budget decrease with the onset of the pandemic. This has been very difficult, and they are trying to determine how it will affect the water users in terms of their levels of service. He also commented on the lack of moisture that is a major concern going forward. In addition, the hot and dry summers tend to impose quite a bit of regulation, so they are trying to get the water where it is supposed to be and dealing with appeals.

**XIV. Other** – Randy Budge from the Bear River Water Users Association noted that they look forward to the Bear River adjudication that will commence and expect to have an active role. His understanding is that there will be about 15,000 claims to be filed in Idaho. This is significant to the Bear River Water Users Association because they rely on the natural flow of the river, as well as supplemental storage in Bear Lake. As the adjudication goes forward, they believe that there will be a number of rights identified, primarily on the tributaries, which lack water rights or which have water rights that have been expanded, which has a negative effect on the natural flow in the main stem. Budge also reported that the Association remains actively involved in monitoring new filings and transfers in both states. He noted that they are also supportive of the joint Utah/Idaho Bear Lake permit that has been slowly moving along. They will urge that process to move forward now that the modeling work has been completed. They are anxious to see more water stored in the Lake which they feel is beneficial in many ways.

Claudia Cottle from Bear Lake Watch commented that they appreciate the conversations that relate to the future of the water in Bear Lake. She showed some pictures that she referred to as the Bear Lake Monster. As she was in a certain part of the Lake, she ran across a mass that was a monster plant, 10-15 feet wide and over 10 feet deep. It produces blossoms on the top. Every little piece of the plant that floats off can become another monster if it is in the right condition to grow. They are seeing similar plants all around the Lake. They will be researching this to learn more and will report on what they find. They continually monitor such things as they appear in the Lake to determine what the long-term outcomes might be.

**XV. Next Commission meeting** – Chairwoman Williams reported that the next Commission meeting is scheduled for April 20, 2021. The location is pending.

A motion to adjourn the Commission meeting was made and approved. The meeting was then adjourned.

# **ATTENDANCE ROSTER**

## **BEAR RIVER COMMISSION REGULAR MEETING**

Electronic Meeting  
November 17, 2020

### **IDAHO COMMISSIONERS**

Gary Spackman  
Kerry Romrell  
Curtis Stoddard  
Mark Ipsen (alternate)

### **UTAH COMMISSIONERS**

Todd Adams  
Charles Holmgren  
Blair Francis  
Ryan Merrill (alternate)

### **WYOMING COMMISSIONERS**

Greg Lanning  
Adrian Hunolt  
Tim Teichert

### **ENGINEER-MANAGER & STAFF**

Don Barnett  
Donna Keeler

### **FEDERAL CHAIR**

Jody Williams

### **OTHERS IN ATTENDANCE**

#### **IDAHO**

Mat Weaver, Department of Water Resources  
James Cefalo, Department of Water Resources  
Matt Anders, Department of Water Resources  
Ethan Geisler, Department of Water Resources  
Josh Hanks, Water Master

#### **UTAH**

Teresa Wilhelmsen, Division of Water Rights  
Will Atkin, Division of Water Rights  
Jake Serago, Division of Water Resources  
Randy Staker, Division of Water Resources  
John Mackey, Division of Water Quality  
Laura Vernon, Division of Forestry, Fire & State Lands  
Matt Coombs, Division of Forestry, Fire & State Lands

#### **WYOMING**

Kevin Payne, State Engineer's Office  
Travis McInnis, State Engineer's Office  
Sam Swartz, State Engineer's Office  
Darren Cook, Attorney General's Office

#### **OTHERS**

Representative Timothy Hawkes, Utah Legislator  
Connely Baldwin, PacifiCorp Energy  
Buffi Morris, PacifiCorp Energy  
John Mabey, PacifiCorp Water Counsel

Ryan Rowland, USGS  
Jordan Clayton, NRCS-Snow Survey  
Carl Mackley, Bear River WCD  
Trevor Nielson, Bear River Canal Company  
Nathan Daus, Cache Water  
Alan Smith, Cub River Irrigation  
David Cottle, Bear Lake Watch  
Claudia Cottle, Bear Lake Watch  
Randy Budge, Bear River Water Users  
Jim DeRito, Trout Unlimited  
Ann Neville, The Nature Conservancy  
Marcelle Shoop, National Audubon Society  
Lisa Welsh, Utah State University



**PROPOSED AGENDA  
REGULAR COMMISSION MEETING**

**November 17, 2020**

**Convene Meeting:** 1:30 p.m.

**Chair:** Jody Williams

- |       |   |              |
|-------|---|--------------|
| I.    | Call to order   | Williams     |
|       | A. Welcome of guests and overview of meeting                    |              |
|       | B. Approval of agenda   | Adams        |
| II.   | Approval of minutes of last Commission meeting (April 21, 2020) | Williams     |
| III.  | Commission business   | Williams     |
|       | A. Update to Commission's bylaws                                |              |
|       | B. Other  |              |
| IV.   | Reports of Secretary and Treasurer                              | Adams/Staker |
|       | A. 2020 budget closeout   |              |
|       | B. 2021 expenditures to date                                    |              |
|       | C. Other  |              |
| V.    | Great Salt Lake   | Rep. Hawkes  |
| VI.   | 2020 Water Supply   | Clayton      |
| VII.  | Water Quality Committee report                                  | Committee    |
| VIII. | Records & Public Involvement Committee report                   | Holmgren     |
| IX.   | Operations Committee report                                     | Hunolt       |
|       | A. Committee meeting  |              |
|       | B. Operations in 2020   | Baldwin      |
|       | C. PacifiCorp operations  | Baldwin      |
| X.    | Technical Advisory Committee report                             | Payne        |
| XI.   | Management Committee report                                     | Lanning      |
| XII.  | Engineer-Manager's report                                       | Barnett      |
| XIII. | State reports   |              |
|       | A. Idaho  | Spackman     |
|       | B. Utah   | Adams        |
|       | C. Wyoming  | Lanning      |
| XIV.  | Other   | Williams     |
| XV.   | Next Commission meeting (Tuesday, April 20, 2021, at ????)      | Williams     |

**Anticipated adjournment:** 3:00 p.m.

and Secretary shall perform such other duties as may be assigned to them under these Bylaws or by action of the Commission.

4. The Treasurer may or may not be a member of the Commission. He shall be elected at each annual meeting of the Commission and shall hold office until his successor is elected and shall have qualified. The Treasurer shall receive, hold, and disburse all funds of the Commission. The Treasurer shall furnish a bond for the faithful performance of his duties in such amount as the Commission may direct. The cost of such bond shall be paid by the Commission. In the case of a vacancy in the office of Treasurer, the Chairman shall appoint a new Treasurer to serve for the unexpired term or until such time as the Commission shall elect a successor at a regular or special meeting and the person so elected shall have qualified. The offices of Secretary and Treasurer may be held by the same person.

5. The Commission may employ a secretarial assistant and such engineering, legal, clerical, and other personnel as, in its judgment, may be necessary. They shall receive such compensation and perform such duties as may be fixed by the Commission.

### **ARTICLE III PRINCIPAL OFFICE**

1. The principal office and place of business of the Commission shall be at a location designated by the Commission.

2. The principal office shall be open for business on such hours and days as the Commission may direct.

3. All books and records of the Commission shall be kept at the principal office of the Commission. Except as otherwise provided in the Compact, or herein, all records of the Commission shall be open to inspection by the public.

### **ARTICLE IV MEETINGS**

1. The annual meeting of the Commission shall be held on the third Tuesday of April of each year unless otherwise designated by the Commission.

2. The Commission shall hold a regular meeting during the month of November on the Tuesday of the week preceding the week of Thanksgiving each year unless otherwise designated by the Commission.

3. Special meetings of the Commission may be called by the Chairman or, in case of vacancy in the office of the Chairman or inability of the Chairman to act, by the Vice-Chairman. Upon the request of two or more Commissioners, it shall be the duty of the Chairman to call a special meeting.

4. Meetings of the Commission, or any of its committees, may be held in person or through other means, at the discretion of the Commission's or respective committee's chair, which allow members to reasonably participate.
5. Notice of all meetings of the Commission shall be sent by the Secretary or the Engineer-Manager to all members of the Commission by electronic or ordinary mail at least ten days in advance of each such meeting. Such notice shall designate the time, place, and proposed agenda of the meeting. The notice here required may be waived by unanimous consent of all members of the Commission.
6. The approved minutes of the Commission shall be preserved in a suitable manner. Until approved by the Commission, minutes shall not be official and shall be furnished only to members of the Commission, its employees, and committees.
7. Six Commissioners, who shall include two Commissioners from each State, shall constitute a quorum. An absent member may be represented by his proxy who must be an accredited advisor from his State, and such proxy shall have the powers of a member at such meeting.
8. Each Commissioner, except the Federal Representative, shall have one vote.
9. When a quorum is present, an affirmative vote of at least two-thirds of the Commissioners in attendance shall be necessary for Commission action.
10. At each meeting of the Commission, the agenda items, unless agreed otherwise, shall include approval of the minutes of the last meeting and reports from the Chairman, the Secretary, the Treasurer, the Engineer-Manager, the Commission's standing committees and other agreed-upon agenda items.
11. All meetings of the Commission, except executive sessions, shall be open to the public. Executive sessions shall be open only to officers and members of the Commission, three advisors designated by each State, and the Federal Representative, provided, however, that the Commission may call witnesses in such sessions.
12. Each State may accredit three advisors to the Commission.

## **ARTICLE V COMMITTEES**

1. There shall be the following standing committees:
  - Management Committee
  - Operations Committee
  - Records & Public Involvement Committee
  - Technical Advisory Committee

BEAR RIVER COMMISSION  
STATEMENT OF INCOME AND EXPENDITURES

FOR THE PERIOD OF July 1, 2019 to June 30, 2020

INCOME	CASH ON HAND	OTHER INCOME	FROM STATES	INCOME
Cash Balance 07-01-19	121,790.93			121,790.93
State of Idaho			45,000.00	45,000.00
State of Utah			45,000.00	45,000.00
State of Wyoming			45,000.00	45,000.00
Water Quality		17,512.34		17,512.34
Interest on Savings		2,819.45		2,819.45
 TOTAL INCOME TO				
30-Jun-20	121,790.93	20,331.79	135,000.00	277,122.72

DEDUCT OPERATING EXPENSES

	APPROVED BUDGET	UNEXPENDED BALANCE	EXPENDITURES TO DATE
Stream Gaging/Bear Lake Gage/USGS Contract	42,970.00	-	42,970.00
Bear Lake Gage/USGS			
 SUBTOTAL	42,970.00	-	42,970.00
 EXPENDED THROUGH COMMISSION			
Personal Services BIWC	68,963.00	(0.04)	68,963.04
Travel (Eng-Mgr)	1,200.00	(39.88)	1,239.88
Office Expenses	1,600.00	886.85	713.15
Printing Biennial Report	1,000.00	1,000.00	-
Treasurer Bond & Audit	1,400.00	1,300.00	100.00
Printing	1,600.00	(191.10)	1,791.10
Realtime Web Hosting	8,400.00	1,179.01	7,220.99
Clerical	8,941.00	144.28	8,796.72
Tour	2,500.00	55.82	2,444.18
Contingency	2,000.00	2,000.00	-
 SUBTOTAL	97,604.00	6,334.94	91,269.06
 TOTAL EXPENSES	140,574.00	6,334.94	134,239.06
 CASH BALANCE AS OF 06/30/20			142,883.66

BEAR RIVER COMMISSION  
DETAILS OF EXPENDITURES

FOR PERIOD ENDING June 30, 2020

891	StoneFly	1,800.00
892	BIWC	5,746.92
894	BIWC	21,649.42
895	USGS	42,970.00
896	StoneFly	1,800.00
897	BIWC	5,789.86
898	StoneFly	1,800.00
899	VOID	
900	VOID	
901	BIWC	21,445.49
902	C N A SURETY	100.00
903	StoneFly	1,820.99
904	BIWC	6,383.88
905	BIWC	5,766.90
906	BIWC	16,259.84
907	BIWC	905.76

TOTAL EXPENDITURES	134,239.06
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BANK RECONCILIATION

Cash in Bank per Statement 06/30/20	19,329.88
Plus: Intransit Deposits	
Less: Outstanding Checks	
Total Cash in Bank	19,329.88
Plus: Savings Account-Utah State Treasurer	123,553.78
CASH BALANCE AS OF 06/30/20	142,883.66

BEAR RIVER COMMISSION

STATEMENT OF INCOME AND EXPENDITURES

FOR THE PERIOD OF July 1, 2020 to November 16, 2020

INCOME	CASH ON HAND	OTHER INCOME	FROM STATES	INCOME
Cash Balance 07-01-20	142,883.66			142,883.66
State of Idaho				
State of Utah			45,000.00	45,000.00
State of Wyoming			45,000.00	45,000.00
Water Quality				
Interest on Savings		243.97		243.97
TOTAL INCOME TO				
16-Nov-20	142,883.66	243.97	90,000.00	233,127.63

DEDUCT OPERATING EXPENSES

		APPROVED BUDGET	UNEXPENDED BALANCE	EXPENDITURES TO DATE
Stream Gaging/Bear Lake Gage/USGS Contract		45,910.00	-	45,910.00
Bear Lake Gage/USGS				
SUBTOTAL		45,910.00	-	45,910.00
EXPENDED THROUGH COMMISSION				
Personal Services	BIWC	71,032.00	47,354.68	23,677.32
Travel (Eng-Mgr)		1,200.00	1,200.00	-
Office Expenses		1,600.00	1,409.29	190.71
Printing Biennial Report		1,000.00	1,000.00	-
Treasurer Bond & Audit		1,400.00	1,400.00	-
Printing		1,600.00	1,597.40	2.60
Realtime Web Hosting		8,400.00	6,600.00	1,800.00
Clerical		9,209.00	8,057.75	1,151.25
Tour		2,500.00	2,500.00	-
Contingency		2,000.00	2,000.00	-
SUBTOTAL		99,941.00	73,119.12	26,821.88
TOTAL EXPENSES		145,851.00	6,334.94	72,731.88
CASH BALANCE AS OF 11/16/20				160,398.75

BEAR RIVER COMMISSION  
DETAILS OF EXPENDITURES

FOR PERIOD ENDING November 16, 2020

908	BIWC	18,790.81
909	StoneFly Tech	1,800.00
910	BIWC	6,231.07
911	USGS	45,910.00

TOTAL EXPENDITURES	72,731.88
--------------------	-----------

BANK RECONCILIATION

Cash in Bank per Statement 11/16/20	11,601.00
Plus: Intransit Deposits	
Less: Outstanding Checks	
Total Cash in Bank	11,601.00
Plus: Savings Account-Utah State Treasurer	148,797.75
CASH BALANCE AS OF 11/16/20	160,398.75

Great Salt Lake  
Resolution (HCR-10)  
Steering Group

# Recommendations to Ensure Adequate Water Flows to Great Salt Lake and its Wetlands



“Nothing more than a **giant stinky mud hole** ... [I]t can go away  
and we'd all be fine.”



12/31/2020

2

2020 Great Salt Lake  
HCR-10 Steering Group



## What's in common?



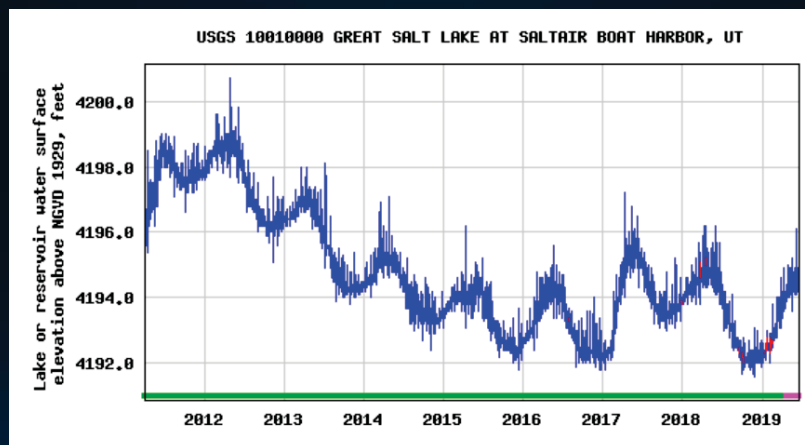
12/31/2020

3

2020 Great Salt Lake  
HCR-10 Steering Group







2020 Great Salt Lake  
HCR-10 Steering Group



**Table 10. Current Overall Health of Eight Ecological Targets for Great Salt Lake Summarized by Bay**

Ecological Targets	Gilbert Bay	Gunnison Bay	Bear River Bay	Farmington Bay	OVERALL RANKING	Uncertainty <sup>1</sup>
System-wide Lake and Wetland	Good				Good	Medium
Open Water	Good	Not ranked	Not ranked	Not ranked	Not ranked	Very High <sup>2</sup>
Unimpounded marsh complex	Not ranked	Not ranked	Not ranked	Not ranked	Not ranked	High
Impounded wetlands	Not ranked	Not ranked	Good	Poor	Not ranked	Very High
Mudflats and playas	Good	Very Good	Good	Good	Good	Low
Isolated island habitat for breeding birds	Good	Good	NA	NA	Good	Low
Alkali knolls	Fair	Very Good	Poor	Poor	Fair	Low
Adjoining grasslands and agricultural lands	Good	Good	Good	Good	Good	Low
<b>SUMMARY</b>					<b>Good</b>	<b>Medium</b>

<sup>1</sup> Ecological targets with very high uncertainty are those for which more than 75% of the indicators could not be evaluated with current data for at least 2 bays. Ecological targets with high uncertainty are those for which more than half of the indicators but less than 75% could not be evaluated with current data for at least two bays. Those with low uncertainty are those for which all indicators could be evaluated with current data. Those with medium uncertainty are those for which one or two indicators could not be evaluated. See Table 11 for a detailed summary of indicators for each ecological target and bay. Uncertainty ratings listed represent the most uncertain bay for each ecological target.

<sup>2</sup> Uncertainty for Open Water of Gilbert Bay is medium whereas the other three bays are very high.

2020 Great Salt Lake  
HCR-10 Steering Group



**Table 12. Summary of Stresses to Great Salt Lake Ecological Targets Summarized by Bay**

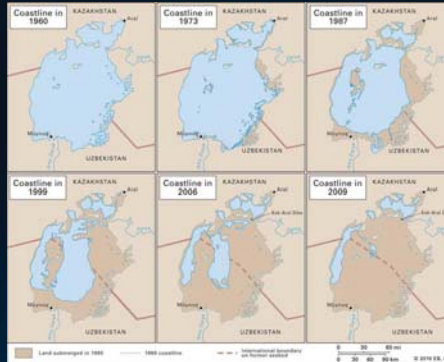
Ecological Targets	Gilbert Bay	Gunnison Bay	Bear River Bay	Farmington Bay	SUMMARY	Uncertainty <sup>1</sup>
System-wide lake and wetland	Medium				Medium	Medium
Open water of bays	High	Low	High	High	High	High
Unimpounded marsh complex	High	Low	Medium	High	Medium	High
Impounded wetlands	Very High	Low	Medium	Very High	High	Medium
Mudflats and playas	Medium	Low	High	Very High	High	Medium
Isolated island habitat for breeding birds	Very High	Very High	n/a	n/a	Very High	Low
Alkali knolls	High	Low	High	Very High	High	Low
Adjoining grasslands and agricultural lands	High	Low	Low	Medium	Medium	Low
<b>SUMMARY</b>					<b>High</b>	<b>Medium</b>

<sup>1</sup> Ecological targets with very high uncertainty are those for which more than half of the stresses could not be evaluated. Those with Low uncertainty are those for which all stresses could be evaluated. Ecological targets with medium uncertainty are those for which one or two indicators could not be evaluated. Ecological targets with high uncertainty are those with more than one but less than half of the stresses evaluated. See Appendix B for a detailed summary of stresses for each ecological target and bay.

2020 Great Salt Lake  
HCR-10 Steering Group



# Aral Sea



12/31/2020

GSL TECH TEAM PRESENTATION: WATER FOR THE ENVIRONMENT

7

2020 Great Salt Lake  
HCR-10 Steering Group



4<sup>th</sup> largest lake in the world  
(26,300 sq. miles) ...



12/31/2020

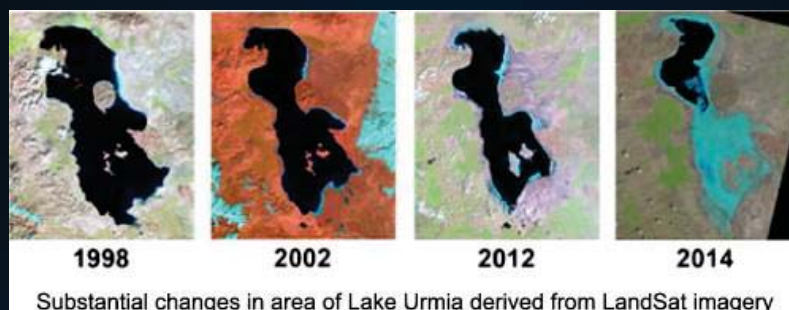
GSL TECH TEAM PRESENTATION: WATER FOR THE ENVIRONMENT

8

2020 Great Salt Lake  
HCR-10 Steering Group



# Lake Urmia (Iran)



12/31/2020

GSL TECH TEAM PRESENTATION: WATER FOR THE ENVIRONMENT

9

2020 Great Salt Lake  
HCR-10 Steering Group



# Owens Lake



12/31/2020

GSL TECH TEAM PRESENTATION: WATER FOR THE ENVIRONMENT

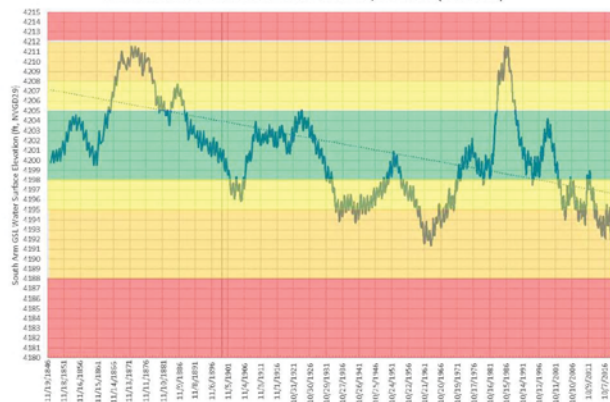
10

2020 Great Salt Lake HCR-10 Steering Group



## A Record of Change

Historical Great Salt Lake Water Surface Elevation, South Arm (1847-2019)



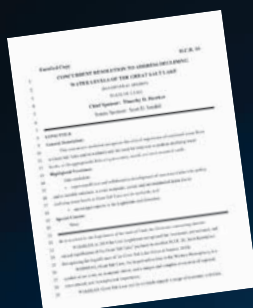
2020 Great Salt Lake HCR-10 Steering Group



## Background

### Concurrent Resolution to Address Declining Water Levels of the Great Salt Lake

(HCR-10, 2019 General Session)



*"This concurrent resolution recognizes the critical importance of continued water flows to Great Salt Lake and its wetlands and the need for solutions to address declining water levels, while appropriately balancing economic, social and environmental needs."*

2020 Great Salt Lake HCR-10 Steering Group



# Who?

*From HCR-10: "BE IT FURTHER RESOLVED that the Legislature and the Governor encourage the Departments of Natural Resources and Environmental Quality through their relevant divisions to expeditiously, jointly, and collaboratively engage with a wide-range of stakeholders....."*



## The Steering Group

2020 Great Salt Lake  
HCR-10 Steering Group



- Todd Adams/DWRe (Candice Hasenyager \*)
- Nathan Bracken/Smith Hartvigsen
- Laura Briefer/SLCDPU (Tamara Prue\*)
- Brian Cottam/DFFSL (Jamie Barnes\*)
- Lynn DeFreitas/FRIENDS of Great Salt Lake
- Justin Dolling/Waterfowl
- Joel Ferry/Agriculture, Legislature
- Tage Flint/WBWCD (Darren Hess\*)
- Eric Edgley/DWiR
- Erica Gaddis/DWQ (John Mackey\*)
- Jim Harris/DWQ – co-chair (Jake Vander Laan\*)
- Joe Havasi/Compass Minerals
- Tim Hawkes/GSL Brine Shrimp Coop., Legislature
- Tyson Roberts/Agriculture Producer
- Marcelle Shoop/National Audubon Society (Max Malmquist\*)
- Brian Steed/UDNR, Director
- Mark Stratford/Ogden City
- Laura Vernon/ DFFSL- co-chair
- Teresa Wilhelmsen/DWRi (Jared Manning\*), non-voting
- Jody Williams/Holland & Hart, Bear River Commission
- \*Alternate

## The Steering Group



2020 Great Salt Lake  
HCR-10 Steering Group





# Six Focus Areas

- Goal – Make a Difference
- Not Exclusive or Inclusive, all vary in Scope and Complexity, but all are Important
- Together, they Provide a Balanced Approach to:
  - Engage the Community
  - Build Upon Existing Law & Policy
  - Use Science as the Foundation
- 16 Opportunities, 60 Recommendations



2020 Great Salt Lake  
HCR-10 Steering Group



# Conclusions

- Great Salt Lake is a centerpiece of our water legacy
- Preserving Great Salt Lake is a significant challenge to overcome
- It is not a “zero-sum game”
- Collaboration, ingenuity, determination are the solution
- These recommendations represent common ground
- A catalyst for discussion, study and action
- We must start now



2020 Great Salt Lake  
HCR-10 Steering Group



# Questions?



2020 Great Salt Lake  
HCR-10 Steering Group



## Bear River Basin, Water Supply Update

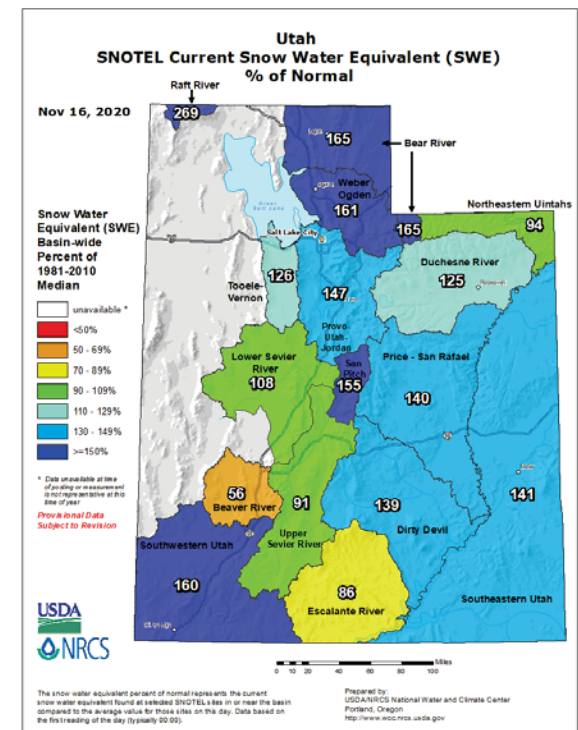
November 17, 2020

Jordan Clayton, NRCS Snow Survey



## Snowpack conditions

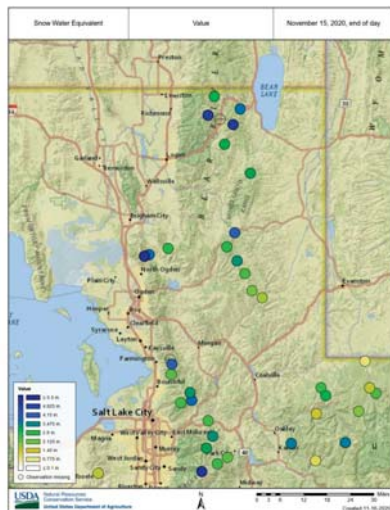
Too early to assess % normal, but... Utah off to good start



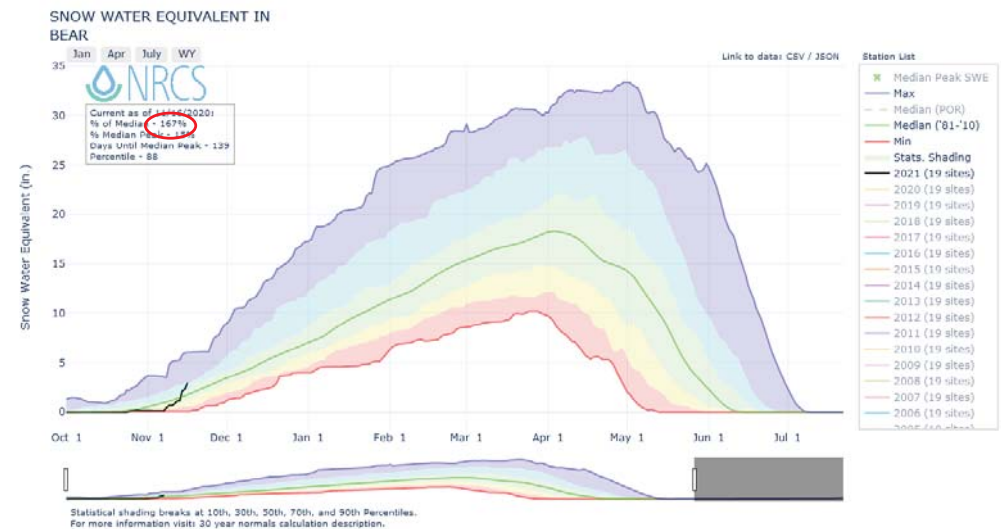
## Snowpack conditions

Too early to assess % normal, but... Utah off to good start

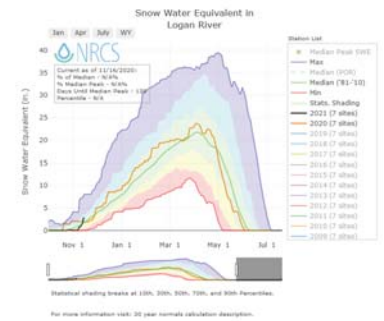
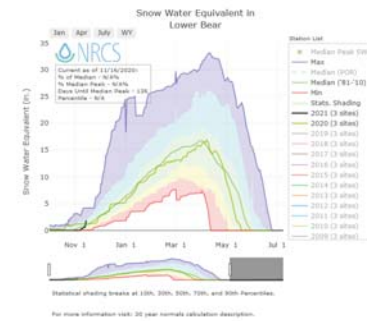
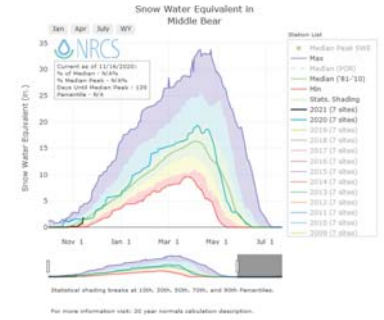
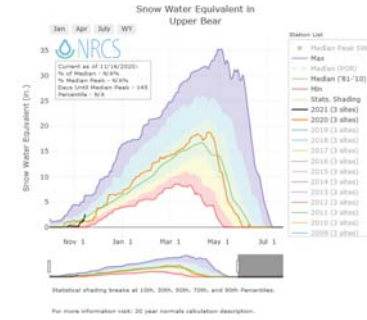
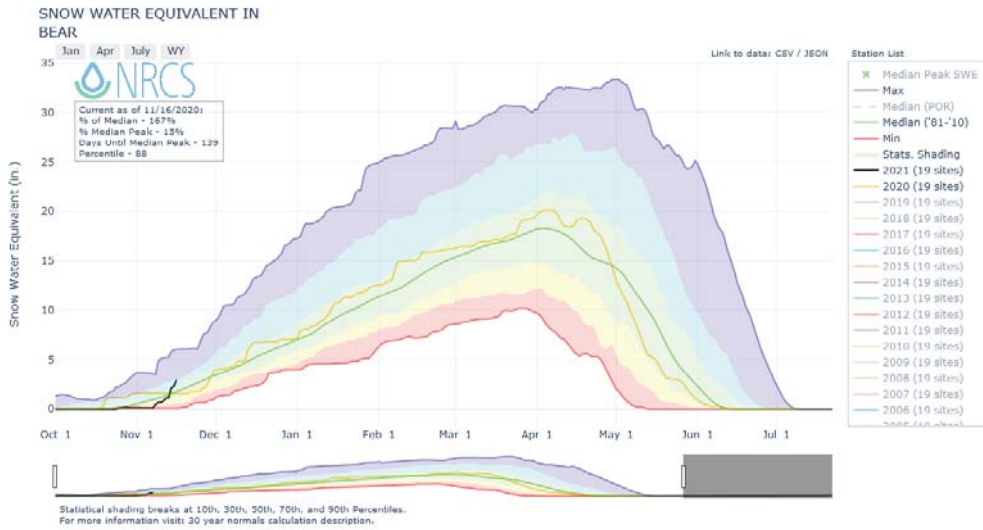
Bear River Basin SNOTEL sites have roughly 2.0 to 5.5" SWE



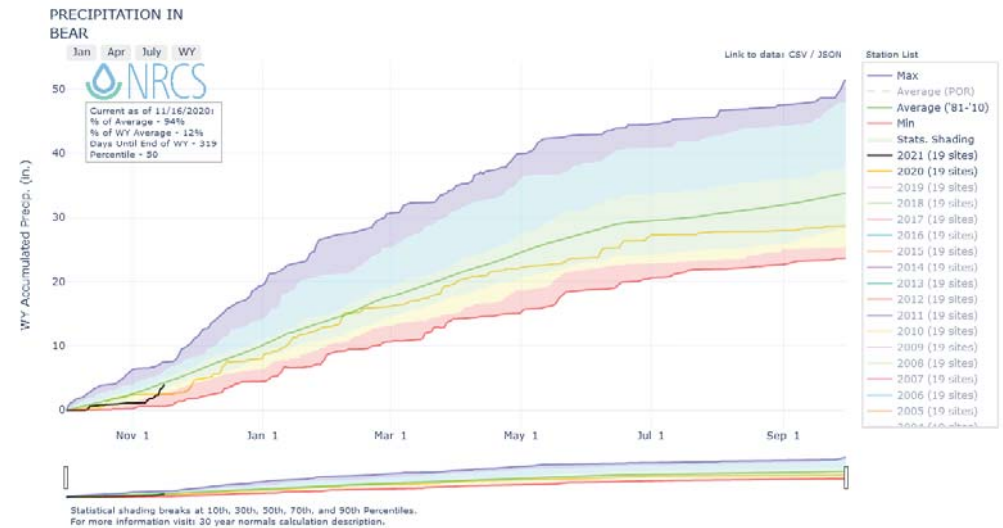
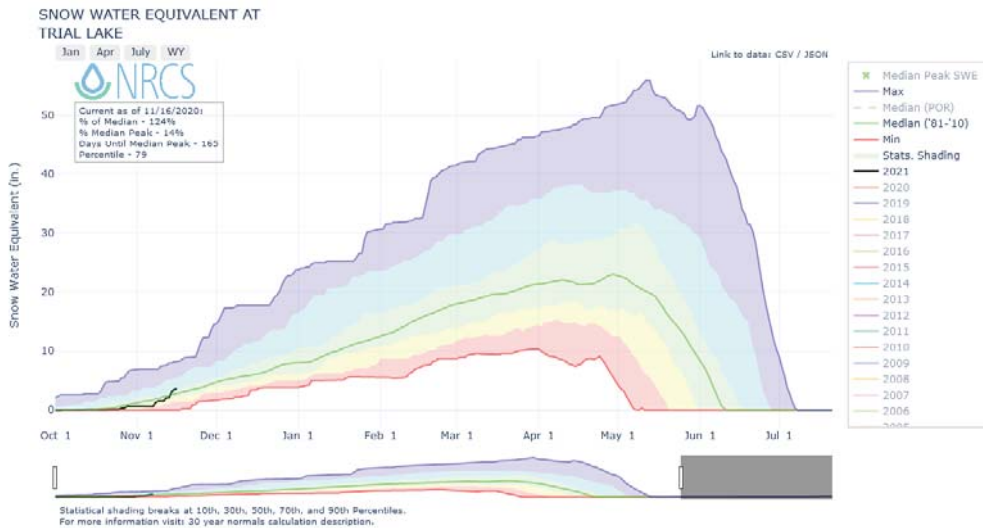
4 SNOTEL sites → 2<sup>nd</sup> highest SWE rank (compared with POR for this date)



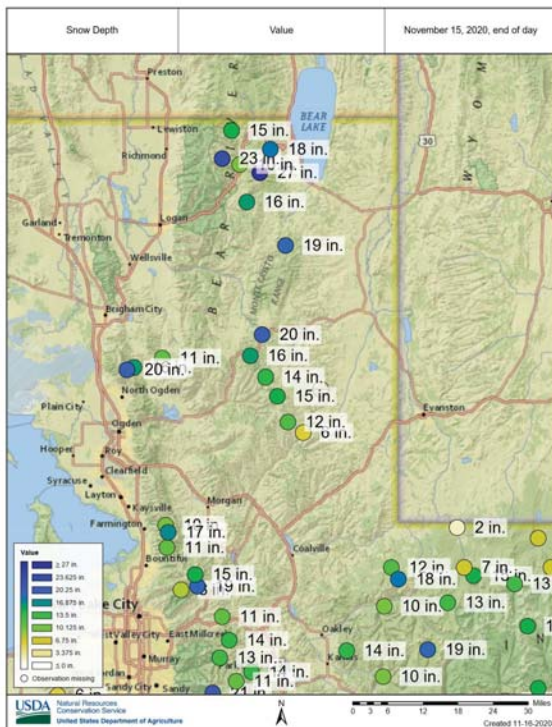




- Comparison with previous years



- Headwaters snowpack



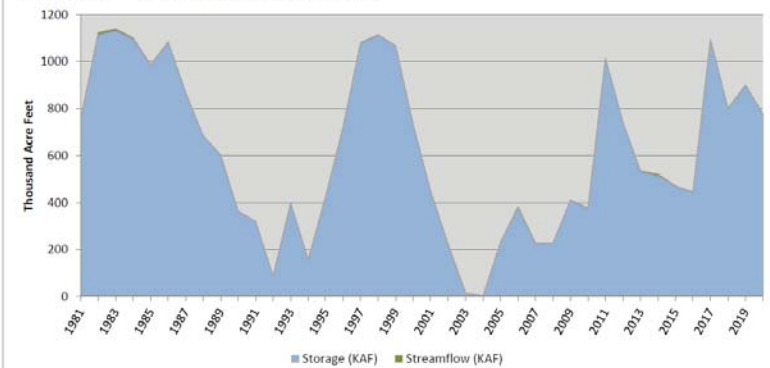
November 1, 2020

### Water Availability Index

Basin or Region	Oct EOM <sup>1</sup> Storage	October Flow	Storage + Flow	Percentile	WAI <sup>2</sup>	Years with similar WAI
	KAF <sup>3</sup>	KAF <sup>3</sup>	KAF <sup>3</sup>	%		
<b>Bear River</b>	<b>775.01</b>	<b>2.33</b>	<b>777.34</b>	<b>66</b>	<b>1.32</b>	<b>12, 81, 18, 87</b>

<sup>1</sup>EOM, end of month; <sup>2</sup>WAI, Water Availability Index; <sup>3</sup>KAF, thousand acre-feet.

### Bear River - Water Availability Index



- WAI values combine current reservoir storage with streamflow volume

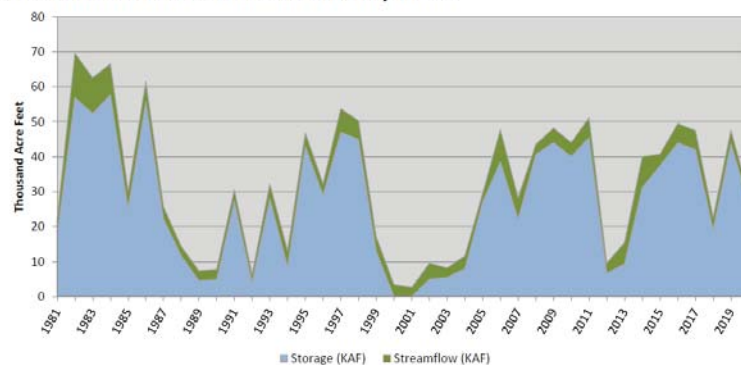
November 1, 2020

### Water Availability Index

Basin or Region	Oct EOM <sup>1</sup> Storage	October Flow	Storage + Flow	Percentile	WAI <sup>2</sup>	Years with similar WAI
	KAF <sup>3</sup>	KAF <sup>3</sup>	KAF <sup>3</sup>	%		
<b>Woodruff Narrows</b>	<b>27.02</b>	<b>2.33</b>	<b>29.35</b>	<b>44</b>	<b>-0.51</b>	<b>87, 07, 05, 85</b>

<sup>1</sup>EOM, end of month; <sup>2</sup>WAI, Water Availability Index; <sup>3</sup>KAF, thousand acre-feet.

### Woodruff Narrows - Water Availability Index



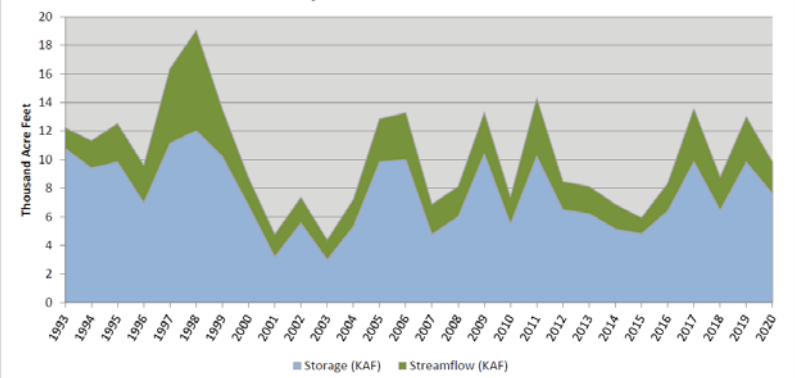
November 1, 2020

### Water Availability Index

Basin or Region	Oct EOM <sup>1</sup> Storage	October Flow	Storage + Flow	Percentile	WAI <sup>2</sup>	Years with similar WAI
	KAF <sup>3</sup>	KAF <sup>3</sup>	KAF <sup>3</sup>	%		
<b>Little Bear</b>	<b>7.62</b>	<b>2.21</b>	<b>9.83</b>	<b>55</b>	<b>0.43</b>	<b>18, 96, 94, 93</b>

<sup>1</sup>EOM, end of month; <sup>2</sup>WAI, Water Availability Index; <sup>3</sup>KAF, thousand acre-feet.

### Little Bear - Water Availability Index



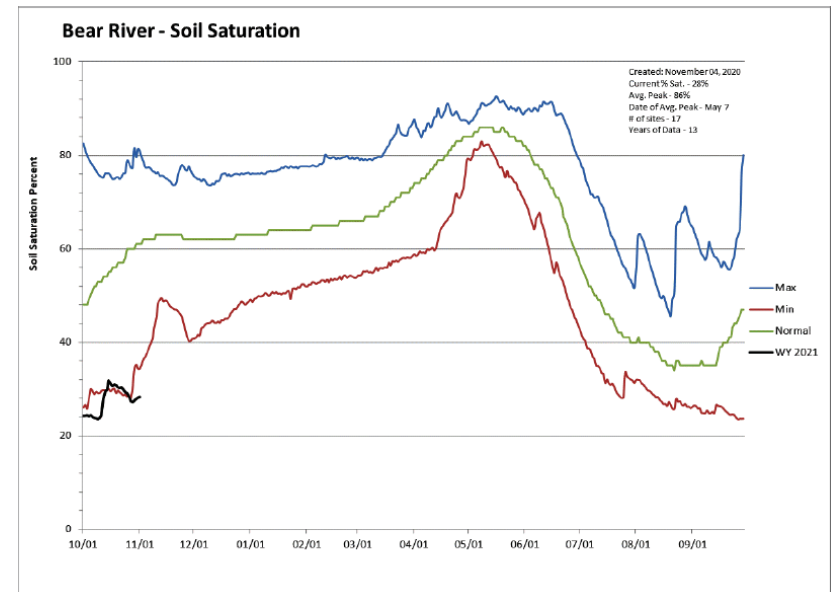
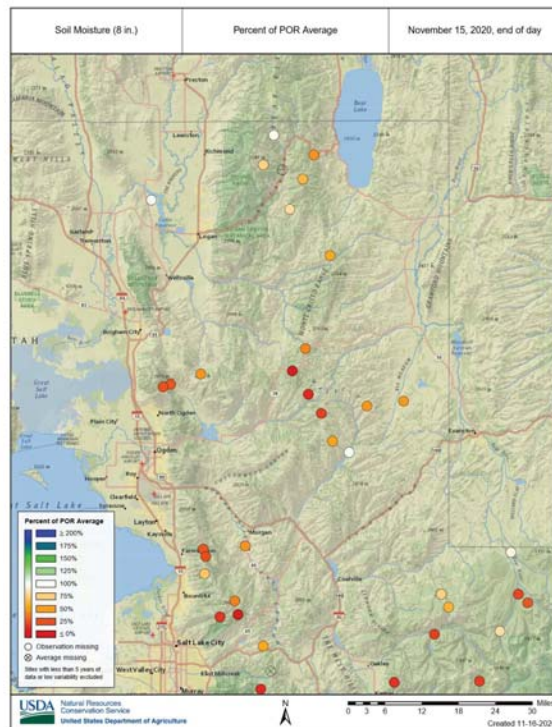
- WAI values combine current reservoir storage with streamflow volume



## Soil moisture

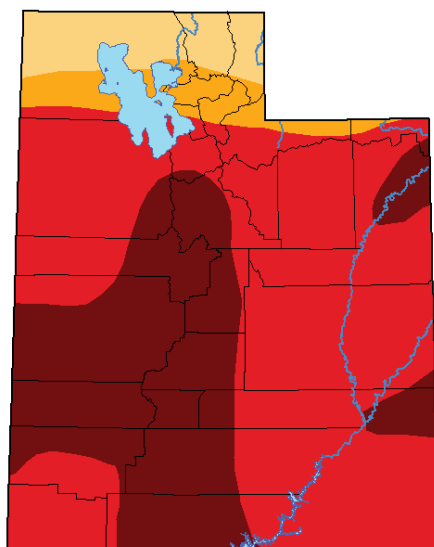
SNOTEL & SCAN sites  
8" sensor depth

*Extremely dry soils will reduce efficiency of snowmelt runoff next spring.*

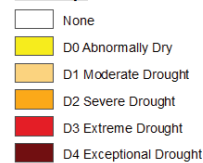


## U.S. Drought Monitor Utah

November 10, 2020  
(Released Thursday, Nov. 12, 2020)  
Valid 7 a.m. EST



### Intensity:



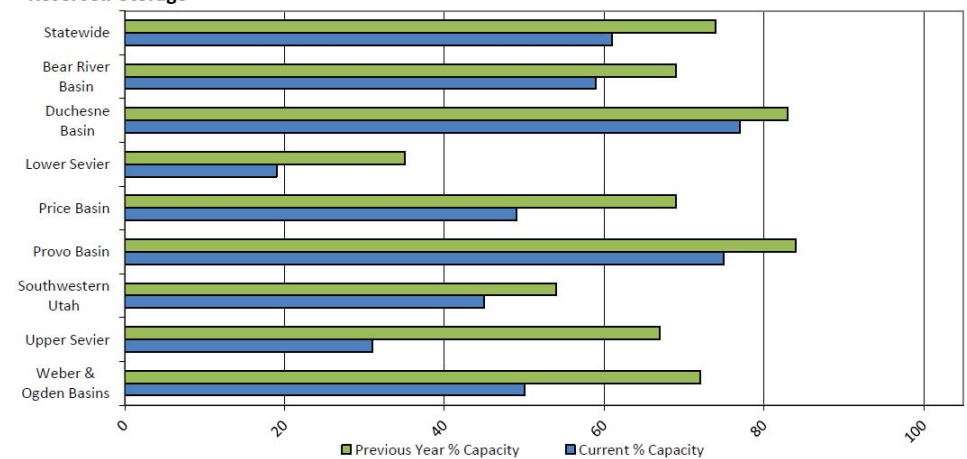
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

### Author:

Richard Tinker  
CPC/NOAA/NWS/NCEP

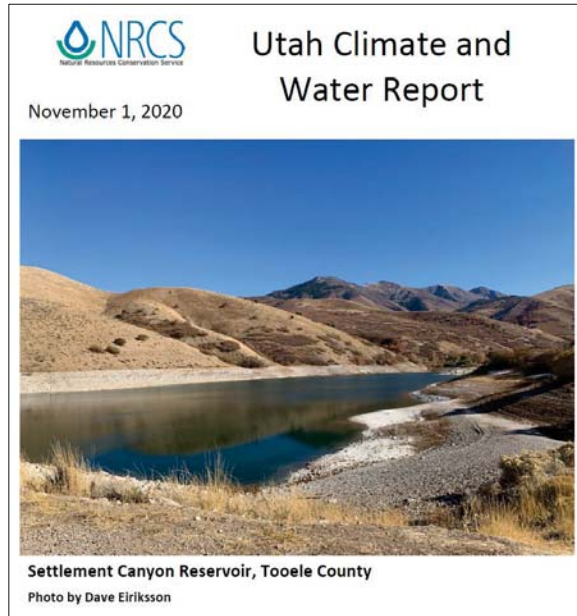
## Statewide reservoir levels, as of November 1st

### Reservoir Storage



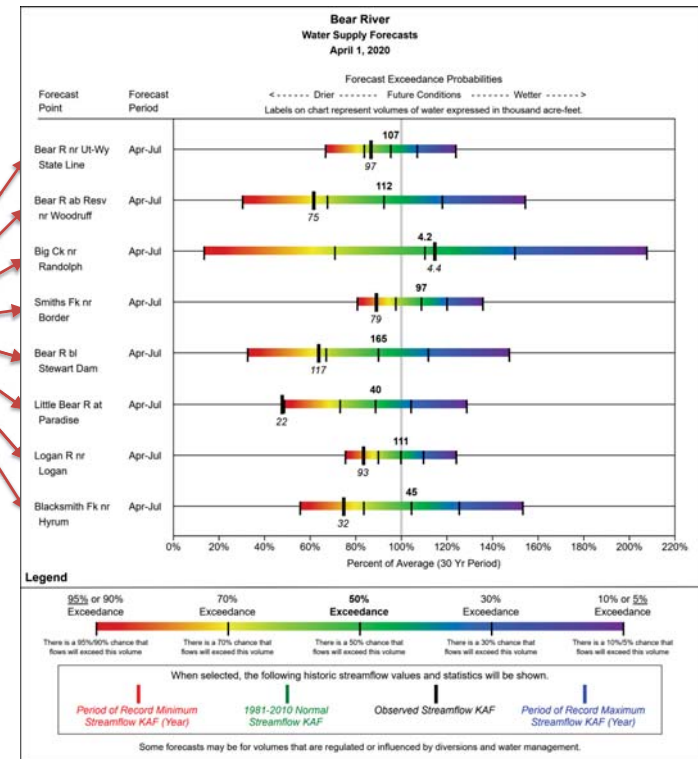
- reservoir storage is at 61% of capacity
- down 13% from last year

- Conditions summarized in NRCS Snow Survey's "November 1<sup>st</sup> Climate & Water Report"



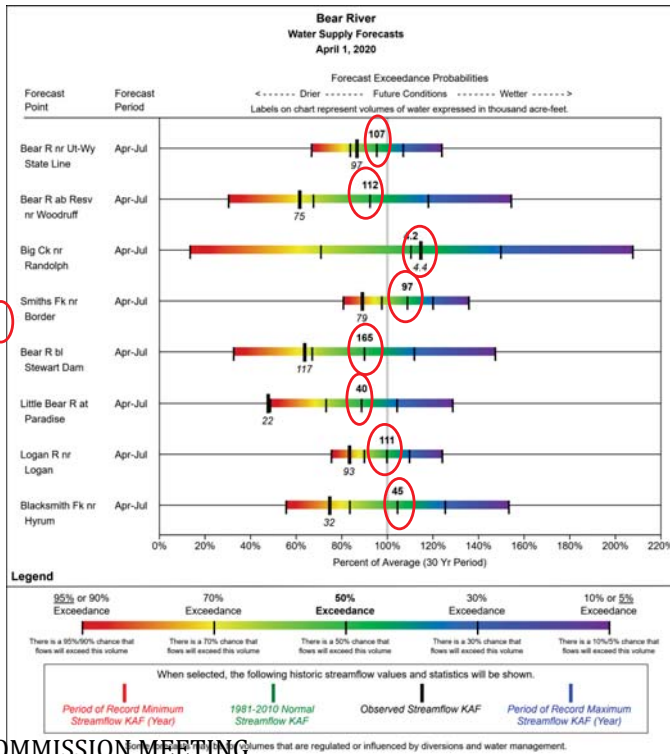
## Assessing the streamflow forecasts

Forecast locations



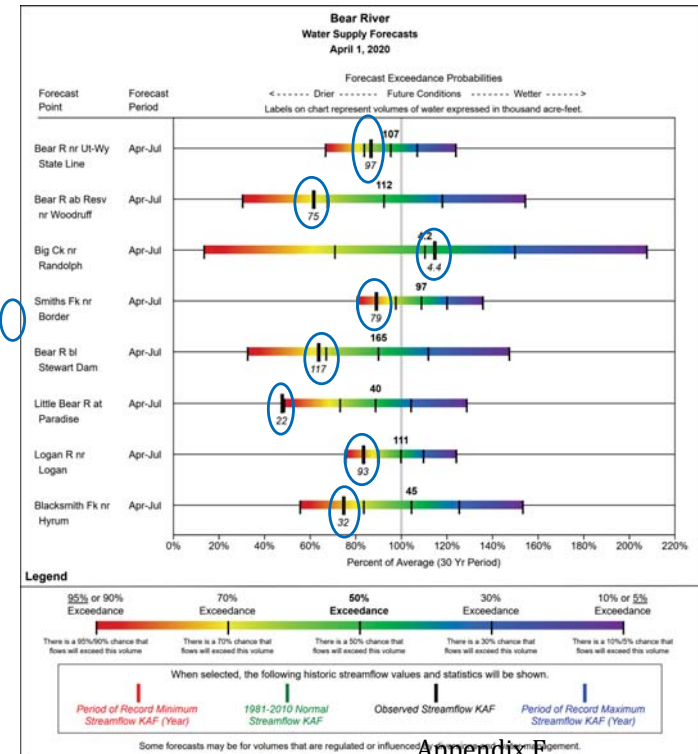
## Assessing the streamflow forecasts

Forecasted flow volume =



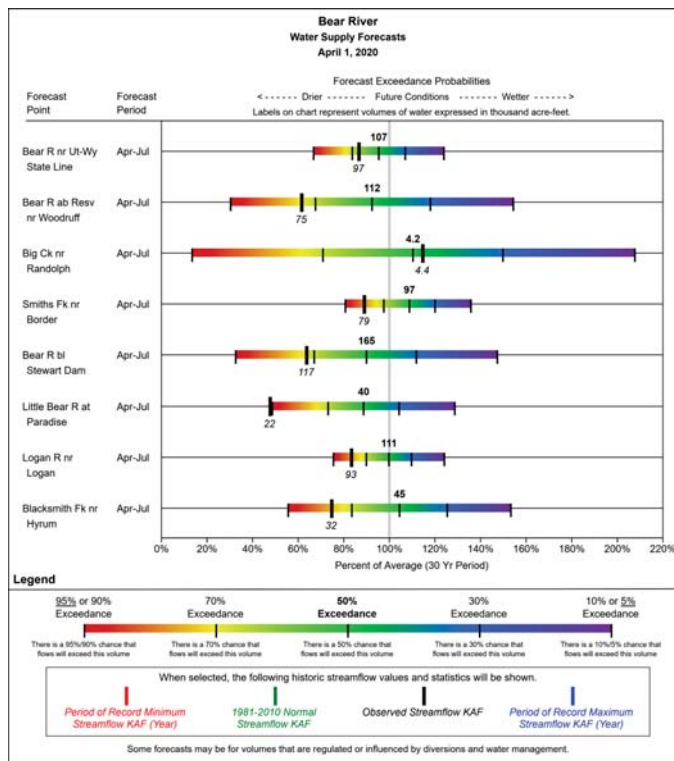
## Assessing the streamflow forecasts

Observed flow volume =



## Assessing the streamflow forecasts

- 2020 runoff forecasts generally over-predicted flow



## Assessing the streamflow forecasts

- NRCS forecasts are generally ~77% accurate
- Reductions in accuracy from:
  - Errors in streamflow data
  - Large amount of diversions, flow regulation, or other improvements
  - Anomalously high or low precipitation after the forecast date
  - Poor relationship between headwaters snowpack & downstream flow
  - Changing relationships?
- Future improvements from:
  - Improved modeling procedure (forthcoming)
  - Longer period-of-record at existing sites
  - Addition of new SNOTEL sites (e.g. Parleys Upper)
  - Incorporation of soil moisture values into forecast model
  - Research into other factors affecting relationship between snow water equivalent and resulting streamflow (e.g. dust impacts, etc.)

## Questions?

**Contact info:**  
 Jordan Clayton  
 Utah NRCS Snow Survey  
 245 Jimmy Doolittle Rd.  
 Salt Lake City, UT 84116  
 385-285-3118  
[jordan.clayton@usda.gov](mailto:jordan.clayton@usda.gov)



## SUMMARY OF WATER YEAR 2020 BEAR LAKE OPERATIONS

Date	Hydrologic Information/Event	Contents (% of Full) Discharge (% of Normal)
10-01-19	Bear Lake Beginning Elevation - 5,917.89 ft.	1,018,257 af (72%)
11-04-19	Bear Lake Low Elevation - 5,917.84 ft. (see note 1)	1,014,802 af (71%)
	Rainbow Inlet Canal Discharge	208,000 af (79%)
	Bear River Discharge Below Stewart Dam	2,600 af
	Bear Lake Net Runoff (Computed Total Inflow less Lake Evaporation)	180,000 af (56%)
07-07-20	Bear Lake High Elevation - 5,919.46 ft.	1,127,305 af (79%)
	Outlet Canal Releases: 11/18 - 3/31; 6/1 - 10/4 (126 days irrigation releases)	281,000 af
07-16-20	Outlet Canal Maximum Release - 1,700 cfs	
	Bear Lake Storage Release (see note 2, irrigation release 116,100 acre-feet)	145,000 af
09-30-20	Bear Lake Ending Elevation - 5,916.35 ft.	912,473 af (64%)
	Bear Lake Settlement Agreement "System Loss" Volume	28,900 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. Includes system loss volume.

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

Bear Lake elevation as of November 16, 2020 was 5916.09 feet. There is 150 cfs in the Rainbow Inlet Canal. The Bear Lake Outlet Canal is closed. Tentative seasonal low elevation is 5916.07, which occurred on November 13, 2020.

### Summary of Water Year 2020

The Bear Lake Irrigation Storage Allocation for 2020 was 245,000 acre-feet. Runoff was below normal, with Bear Lake net runoff at 180,000 acre-feet (56% of normal). High runoff management releases were made from November 18, 2019 through March 31, 2020. The Bear Lake Outlet Canal was opened for irrigation releases on June 1 and shut on October 4.

### Water Year 2021 Operations

Currently, inflows are being stored and the March 31, 2020 PacifiCorp Target Elevation (PTE) is 5918.0 feet, consistent with the *Operations Agreement for PacifiCorp's Bear River System*.

### Operational Notes

- *Bear River Black Canyon Recreational Water Releases* were curtailed in 2020 due to COVID-19. Only four events occurred, with 2 occurring in September.