



## MINUTES

### BEAR RIVER COMMISSION ANNUAL MEETING ONE HUNDRED THIRTY-NINTH COMMISSION MEETING NOVEMBER 23, 2021

## BEAR RIVER COMMISSION

226 South 200 West  
Farmington, Utah 84025-2407  
801-292-4662

CHAIR  
Jody Williams

IDAHO  
COMMISSIONERS  
Gary Spackman  
Kerry Romrell  
Curtis Stoddard

UTAH  
COMMISSIONERS  
Candice Hasenyager  
Blair Francis  
Charles W. Holmgren

WYOMING  
COMMISSIONERS  
Brandon Gebhart  
Adrian Hunolt  
Tim Teichert

ENGINEER-MANAGER  
Don A. Barnett

**I. Call to order** – The regular meeting of the Bear River Commission was called to order by Chairwoman Jody Williams at 1:43 p.m. on Tuesday, November 23, 2021. This was the one hundred thirty-ninth meeting of the Commission. The meeting was held both in person and virtually. It was noted that Norm Weston, alternate Commissioner for the Upper Utah Division was filling in for Commissioner Blair Francis. Williams then asked those in the room to introduce themselves after which Don Barnett read the list of those who were virtually attending the meeting. An attendance roster is attached to these minutes as Appendix A.

Williams then addressed the agenda for the meeting. There were no changes made to the agenda and it was approved by vote of 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 virtually on April 20, 2021. A motion was made to adopt the minutes. The motion was seconded and unanimously approved by the Commission.

**III. Reports of Secretary and Treasurer** – Commissioner Adams asked Randy Staker, the Commission's Treasurer, to discuss the close-out of the FY2021 expenditures. Staker reported that the FY2021 beginning balance was \$142,883.66 which was increased through dues, interest and payments by the water quality agencies to \$281,644.29. Total expenses were \$135,078.08 leaving a carry-over balance of \$146,566.21 (see Appendix C for a copy of the FY 2021 Statement of Income and Expenditures). Staker then reported of income and expenditures thus far in FY2022 (also included in Appendix C). Adams clarified that the shown payment from the water quality agencies in FY2021 was actually for FY2020 expenditures and that all three water quality agencies had now made their FY2021 payments, but they will show up in FY2022's accounting. Adams noted that the carry-over balance was fairly strong and so there was no proposal to increase the state dues. A motion was made and passed to accept the Treasurer's report. There were no additional items from the Secretary.

**IV. 2021 Water Supply** – Troy Brosten reported on the 2022 water supply outlook thus far (see Appendix D). He indicated that their offices are now fully staffed with seven staffers. He then ran through his PowerPoint presentation. He indicated that very early in the season, the snow-water equivalent in the Bear River Basin was about 46% of normal but the total precipitation thus far in WY2022 in the basin was well above normal as were soil moisture conditions. He indicated that there was a 50/50 chance of having a normal water supply and a 70% chance of having a better water year than in 2021. Brosten then showed graphs of number of SNOTEL sites and compared this year versus prior years. He then showed the soil moisture conditions in the basin which were overall quite high. He also reported on the low carry-over storage in the Bear River reservoirs. Lastly, he reported on the short-term temperature and precipitation forecasts.

**V. PacifiCorp's Proposed Dry Canyon Pump Storage Project** – Connely Baldwin with PacifiCorp provide a presentation on their proposed Dry Canyon Pumped Storage Project. They have been reaching out to many groups involved in the Bear River Basin to inform them of the project. PacifiCorp's Preliminary Permit Application was filed with FERC on October 13, 2021. The application does not allow for construction but rather a feasibility study and preserves PacifiCorp's priority in the proposed project. Baldwin ran through a presentation (attached as Appendix E) and provided the basic details of the proposed project. The proposal is to include the use of Mud Lake as a lower reservoir and PacifiCorp's existing water rights. A water right application has been filed with IDWR. Baldwin indicated that, though separate, PacifiCorp would like to concurrently advance their increased storage project at Bear Lake, including increasing the Bear Lake target elevation. Baldwin then ran through the proposed project elements shown in the attached presentation. As proposed, the water level in the lower reservoir would at times be above and other times below the normal water level in Mud Lake with gates between the two reservoirs which would provide to make-up water. The active storage would be 23,000 acre-feet. PacifiCorp's initial proposal would be to have this storage treated as part of the Mud Lake storage when making Bear Lake/Mud Lake equivalency calculations.

Baldwin reported on anticipated financial benefits to the local area. He also indicated that, if done concurrently with their proposed increase in Bear Lake capacity project, it could add 150,000 acre-feet of storage to Bear Lake and two feet to Bear Lake's elevation going into dry periods. They also believe that there will be sediment benefits to Bear Lake by reducing discharge of Bear River discharge into Bear Lake. There also might be an option for additional sediment capture in Mud Lake. They are considering using a stakeholder-driven method for selecting environmental projects which could be implemented in the area.

Baldwin indicated that they are seeking to engage the support of the three states and stakeholders within the Basin. He also touched on 10 other pump storage projects applications that they have filed around the western United States. He then fielded questions from the group.

**VI. Water Quality Committee report** – John Mackey gave the report from the Water Quality Committee meeting held the previous week. He reported that the Committee is nearing completion of a strategic plan that they have been working on for several years. He reviewed elements of the plan including the tri-state water quality monitoring efforts. He also reported on the efforts of the Bear River Water Quality Task Force and highlighted efforts to provide sewerage around Bear Lake. He reported on the water quality platforms which have been operating on Bear Lake and indicated that 2022 is the last year of the five-year effort but that there is interest in extending this monitoring. Overall, the water quality in Bear Lake is in really good shape. Mackey indicated that the Committee received a report on a project on Battle Creek which includes water quality improvement projects.

They also received a report on the Mud Lake pump storage project as well as their FERC permit renewal. Mackey reported on the three states' efforts in dealing with harmful algal blooms. He also discussed Utah's successful, Ag Voluntary Incentive Program which assists producers manage nutrients. A similar program is in Idaho. Mackey also provided a report on the Jack Barnett Memorial.

**VII. Records & Public Involvement Committee report** – Charles Holmgren reported on the meeting of the Records & Public Involvement Committee. The Committee had discussed Bear River gages including the numbering of gages not operated by the USGS. They also discussed the 20% cost share in the gages by the water quality gages and the potential extension of the Bear Lake water quality platforms. Holmgren reported on the Bear Lake gage and the porting of the historic data from PacifiCorp to the USGS. The Committee had also received a report on USGS' new National Water Science Dashboard. He discussed the intent to host a tour in 2022 going from Oneida to the Idaho/Utah state line.

**IX. Operations Committee report** – Adrian Hunolt noted that the Operations Committee met earlier in the day, with the alternate Commissioner, Norm Weston, sitting in for Commissioner Blair Francis. Hunolt asked Travis McInnis to make the report to the Commission. McInnis indicated that in 2021 they operated under informal regulation in the Upper Division. In the Central Division there was interstate regulation beginning on May 1 and the Lower Division operated with weekly calls. There was a discussion on the depletion estimates efforts. McInnis also reported on Compact training which occurred in the Operations Committee meeting. The committee also discussed the Mud Lake area capacity curve and updated information as well as new applications of interest. The Committee had also discussed potential interstate regulation on Mill Creek.

Connely Baldwin then addressed the Commission. He reported on a summary of Bear Lake operations in 2021 (handout attached as Appendix F). He reported that the net runoff to Bear Lake was the fourth lowest since they began tracking in 1919. In 2021 there was a full allocation of Bear Lake storage but with notably lower natural flow gains in the Lower Division, there were concerns with physical the ability to fully deliver the storage allocations when call for. Baldwin looked ahead to 2022 indicating that if there is a normal water supply in 2022 then there would be a full allocation of Bear Lake storage. Baldwin also showed a new plot which shows a summary of the Bear Lake data in a different format. Baldwin discussed maintenance efforts at occurring at Lifton and at Stewart Dam.

Baldwin then gave a report on Cutler Relicensing efforts. The license expires in 2024. They have had some stakeholder events and a number of studies and have now submitted their draft license application. In March 2022 they will file their final license application. There was an expression of appreciation to Baldwin for facilitating the water distribution in the Lower Division during a very difficult year with well-organized weekly phone calls.

**X. Technical Advisory Committee report** – Kevin Payne reported that the TAC has continued to meet regularly since the last Commission meeting to work on updating the depletion estimates. The meetings included an all-day in-person meeting in July. There has been some good progress on the depletion update efforts. Many of the pieces of the update have been moving forward but the supplemental depletions estimates are still proving difficult. The TAC has been working on a water delivery schedule on Mill Creek. It has also been working with PacifiCorp on an area capacity curve for Mud Lake. Payne reported that the TAC has been looking at stream gaging and water right

questions. They will continue to monitor environmental and watershed health matters which may affect operations under the Compact.

**XI. Management Committee report** – Gary Spackman reported for the Management Committee. Under the heading of the analysis of water rights, Spackman reported that the request for interstate regulation on Mill Creek has raised the broader question of what the Commission does when it receives a request for the determination of a water emergency. There is a tension between trying to deliver water to senior water rights holders in a timely fashion the waters to which they are entitled while at the same time affording due process to those who are junior water right holders. Spackman indicated that the Management Committee would ask the Engineer-Manager work with the TAC to develop a procedure for interstate delivery on Mill Creek and also to develop a more general procedure for other requests elsewhere in the Basin so that we are better able to respond in a more timely manner to future requests.

Relative to the depletions update effort, Spackman indicated that the TAC has worked hard at developing a uniform method for determining the supplemental depletions that will continue to be worked on and refined and has asked the TAC to conclude these efforts and report them to the Commission. Spackman also reported that the TAC has alerted the Management Committee regarding some anomalies between the GIS treatment of certain lands in the last update and requested that they work together and come back to the Commission with recommendations on how to address any discrepancies.

**XII. Engineer-Manager's report** – Don Barnett indicated that there were no additional items to report.

**XIII. State Reports – Idaho** – Commissioner Spackman reported for Idaho. Spackman indicated that he has been embroiled in a dispute in the Wood River over joint regulation between surface water and groundwater. After modeling and discussions, he needed to act and issue a curtailment order which increased the flow in the river but has now led to litigation. It bears out Spackman's earlier comments about the balance between timely action to protect the senior versus delay thereby giving junior users the due process. Spackman expressed appreciation for efforts to find storage water in Bear Lake this past summer, and though it did not ultimately succeed, he was appreciative of everyone's efforts in the Basin and especially those of PacifiCorp. He also reported that Idaho's Bear River adjudication is still proceeding forward but at a slower pace because the federal government has challenged the commencement order. Spackman also provided a report on funding to IDWR.

**XIII. State Reports – Utah** – Commissioner Adams discussed their state water resources plan which will be coming out shortly. He reported that Great Salt Lake levels have hit an all-time low. He also expressed appreciation for efforts which led to getting through a very difficult water year. Adams reported on positive funding positions for the Utah Division of Water Resources. He also indicated that he has taken a new position as Deputy Director of the Utah Department of Natural Resources and introduced Candice Hasenyager as the new Director of the Division of Water Resources.

**XIII. State Reports – Wyoming** – Commissioner Lanning reported that Wyoming continues to deal with the drought conditions in the Bear River and in other basins in Wyoming. He particularly mentioned the concern with carryover storage should there be a back-to-back dry year. Lanning indicated that the drought map looks similar to Wyoming's budget causing them to lose several

positions and programs. He also discussed concerns he has heard in the water community on succession and the loss of knowledge.

**XIV. Other** – Emily Lewis from the Bear River Water Users Association commented that they concur in the comments and the expressions of appreciation to those who worked hard during the dry year. Lewis recognized that this will not be the last year of drought and encouraged continuation of some of summer discussions relative to Bear Lake storage.

David Cottle reported for Bear Lake Watch. He expressed appreciation for all of the efforts by everyone in a very trying water year.

**XV. Next Commission meeting** – Chairwoman Williams noted that the next meeting of the Commission will be April 19, 2022. She expressed appreciation to everyone who participated in the meetings.

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

# **ATTENDANCE ROSTER**

## **BEAR RIVER COMMISSION REGULAR MEETING**

Hybrid Meeting  
November 23, 2021

### **IDAHO COMMISSIONERS**

Gary Spackman  
Curtis Stoddard  
Kerry Romrell

### **WYOMING COMMISSIONERS**

Greg Lanning  
Adrian Hunolt  
Tim Teichert  
Kevin Payne (Alternate)

### **FEDERAL CHAIR**

Jody Williams

### **UTAH COMMISSIONERS**

Todd Adams  
Charles Holmgren  
Norm Weston (Alternate)  
Ryan Merrill (Alternate)

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

Don Barnett  
Jacob Barnett  
Donna Keeler

### **OTHERS IN ATTENDANCE**

#### **IDAHO**

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

#### **UTAH**

Candice Hasenyager, Division of Water Resources  
Jake Serago, Division of Water Resources  
Randy Staker, Division of Water Resources  
Teresa Wilhelmsen, State Engineer  
Jared Manning, Division of Water Rights  
Will Atkin, Division of Water Rights  
Skyler Buck, Division of Water Rights  
Ron Hoffman, River Commissioner  
Brock Hoffman, River Commissioner

#### **WYOMING**

Mike Johnson, State Engineer's Office  
Travis McInnis, State Engineer's Office  
Jeff Cowley, State Engineer's Office  
Mel Fegler, State Engineer's Office

OTHERS

Connely Baldwin, PacifiCorp Energy

Buffi Morris, PacifiCorp Energy

John Mabey, Outside Counsel for PacifiCorp

Troy Brosten, NRCS Snow Survey

Dwight Slauch, U.S. Bureau of Reclamation

Trevor Nielson, Bear River Canal Company

Carl Mackley, Bear River Water Conservancy District

Nathan Daus, Cache Water District

Erin Holmes, Bear River Migratory Bird Refuge

Claudia and David Cottle, Bear Lake Watch

Emily Lewis, Bear River Water Users

T.J. Budge, Bear River Water Users

Jim DeRito, Trout Unlimited

Ann Neville, The Nature Conservancy

Marcelle Shoop, National Audubon Society

D.O. Lockman

**PROPOSED AGENDA  
REGULAR COMMISSION MEETING**

**November 23, 2021**

**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   |              |
| II.   | Approval of minutes of last Commission meeting (April 20, 2021) | Williams     |
| III.  | Reports of Secretary and Treasurer                              | Adams/Staker |
|       | A. 2021 budget closeout   |              |
|       | B. 2022 expenditures to date                                    |              |
|       | C. Other  |              |
| IV.   | 2021 Water Supply   | Brosten      |
| V.    | PacifiCorp's Proposed Dry Canyon Pump Storage Project           | Baldwin      |
| VI.   | Water Quality Committee report                                  | Mackey       |
| VII.  | Records & Public Involvement Committee report                   | Holmgren     |
| VIII. | Operations Committee report                                     | Hunolt       |
|       | A. Committee meeting  |              |
|       | B. 2021 Lower Division operations                               | Baldwin      |
|       | C. PacifiCorp operations  | Baldwin      |
|       | D. Cutler hydro relicensing                                     |              |
| IX.   | Technical Advisory Committee report                             | Payne        |
| X.    | Management Committee report                                     | Spackman     |
| XI.   | Engineer-Manager's report                                       | Barnett      |
| XII.  | State reports   |              |
|       | A. Idaho  | Spackman     |
|       | B. Utah   | Adams        |
|       | C. Wyoming  | Lanning      |
| XIII. | Other   | Williams     |
| XIV.  | Next Commission meeting (Tuesday, April 19, 2022, location?)    | Williams     |

**Anticipated adjournment:** 4:30 p.m.



BEAR RIVER COMMISSION

STATEMENT OF INCOME AND EXPENDITURES

FOR THE PERIOD OF July 1, 2020 to June 30, 2021

INCOME	CASH ON HAND	OTHER INCOME	FROM STATES	INCOME
Cash Balance 07-01-20	142,883.66			142,883.66
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		3,060.67		3,060.67
Interest on Savings		699.96		699.96
<b>TOTAL INCOME TO</b>				
30-Jun-21	142,883.66	3,760.63	135,000.00	281,644.29

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			
<b>SUBTOTAL</b>	45,910.00	-	45,910.00
<b>EXPENDED THROUGH COMMISSION</b>			
Personal Services BIWC	71,032.00	(0.56)	71,032.56
Travel (Eng-Mgr)	1,200.00	943.72	256.28
Office Expenses	1,600.00	260.43	1,339.57
Printing Biennial Report	1,000.00	309.70	690.30
Treasurer Bond & Audit	1,400.00	1,300.00	100.00
Printing	1,600.00	1,510.30	89.70
Realtime Web Hosting	8,400.00	1,179.01	7,220.99
Clerical	9,209.00	770.32	8,438.68
Tour	2,500.00	2,500.00	-
Contingency	2,000.00	2,000.00	-
<b>SUBTOTAL</b>	99,941.00	10,772.92	89,168.08
<b>TOTAL EXPENSES</b>	145,851.00	107,792.92	135,078.08
<b>CASH BALANCE AS OF 06/30/21</b>			146,566.21

BEAR RIVER COMMISSION

DETAILS OF EXPENDITURES

FOR PERIOD ENDING June 30, 2021

908	BIWC	18,790.81
909	STONEFLY	1,800.00
910	BIWC	6,231.07
911	USGS	45,910.00
912	STONEFLY	3,600.00
913	BIWC	9,795.94
914	BIWC	19,421.50
915	VOID	
916	BIWC	7,350.39
917	VOID	
918	STONEFLY	1,820.99
919	C N A Surety	100.00
920	BIWC	6,563.72
921	BIWC	6,457.04
922	BIWC	6,984.47
924	BIWC	63.10
925	BIWC	189.05

TOTAL EXPENDITURES

135,078.08

BANK RECONCILIATION

Cash in Bank per Statement 06/30/21	12,312.47
Plus: Intransit Deposits	
Less: Outstanding Checks	
Total Cash in Bank	12,312.47
Plus: Savings Account-Utah State Treasurer	134,253.74
CASH BALANCE AS OF 06/30/21	146,566.21

BEAR RIVER COMMISSION

STATEMENT OF INCOME AND EXPENDITURES

FOR THE PERIOD OF July 1, 2021 to November 18, 2021

INCOME	CASH ON HAND	OTHER INCOME	FROM STATES	INCOME
Cash Balance 07-01-20	146,566.21			146,566.21
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		9,580.41		9,580.41
Interest on Savings		216.03		216.03
<b>TOTAL INCOME TO</b>				
18-Nov-21	146,566.21	9,796.44	135,000.00	291,362.65

DEDUCT OPERATING EXPENSES

	APPROVED BUDGET	UNEXPENDED BALANCE	EXPENDITURES TO DATE
Stream Gaging/Bear Lake Gage/USGS Contract	47,902.00	-	47,902.00
Bear Lake Gage/USGS			
<b>SUBTOTAL</b>	47,902.00	-	47,902.00
<b>EXPENDED THROUGH COMMISSION</b>			
Personal Services BIWC	73,163.00	73,163.00	18,290.76
Travel (Eng-Mgr)	1,200.00	1,200.00	155.12
Office Expenses	1,600.00	1,600.00	74.42
Printing Biennial Report	1,000.00	1,000.00	
Treasurer Bond & Audit	1,400.00	1,400.00	
Printing	1,600.00	1,600.00	25.20
Realtime Web Hosting	8,400.00	8,400.00	3,600.00
Clerical	9,485.00	9,485.00	23.72
Tour	2,500.00	2,500.00	-
Contingency	2,000.00	2,000.00	-
<b>SUBTOTAL</b>	102,348.00	102,348.00	22,169.22
<b>TOTAL EXPENSES</b>	150,250.00	102,348.00	70,071.22
<b>CASH BALANCE AS OF 11/18/21</b>			221,291.43

BEAR RIVER COMMISSION

DETAILS OF EXPENDITURES

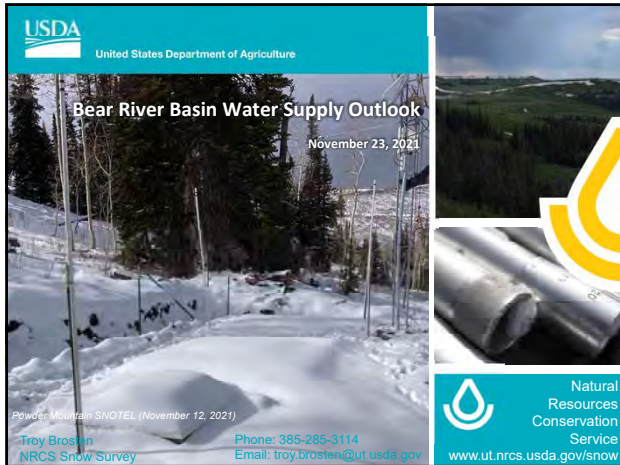
FOR PERIOD ENDING Nov 18, 2021

923	STONEFLY	1,800.00
926	VOID	
927	BIWC	12,193.84
928	STONEFLY	1,800.00
929	USGS	47,902.00
930	BIWC	6,375.38

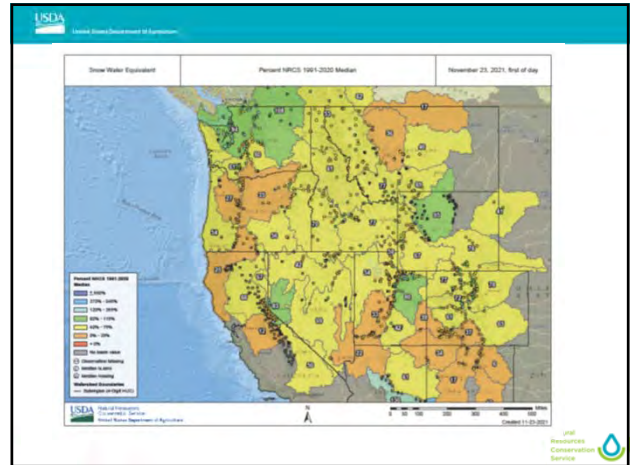
TOTAL EXPENDITURES 70,071.22

BANK RECONCILIATION

Cash in Bank per Statement 11/18/21	(18,178.34)
Plus: Intransit Deposits	
Less: Outstanding Checks	
Total Cash in Bank	(18,178.34)
Plus: Savings Account-Utah State Treasurer	239,469.77
CASH BALANCE AS OF 11/18/21	221,291.43



1



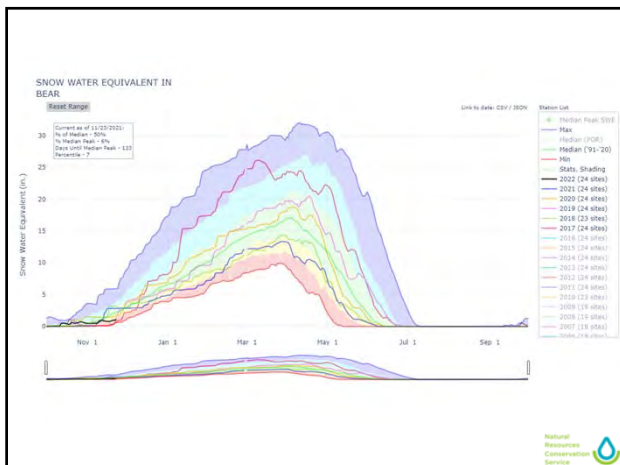
2



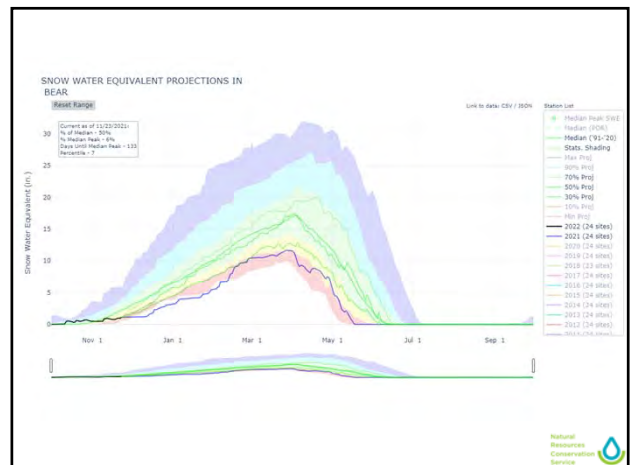
3



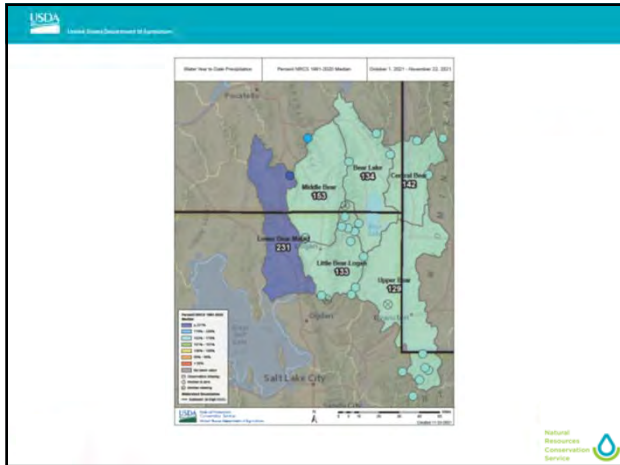
4



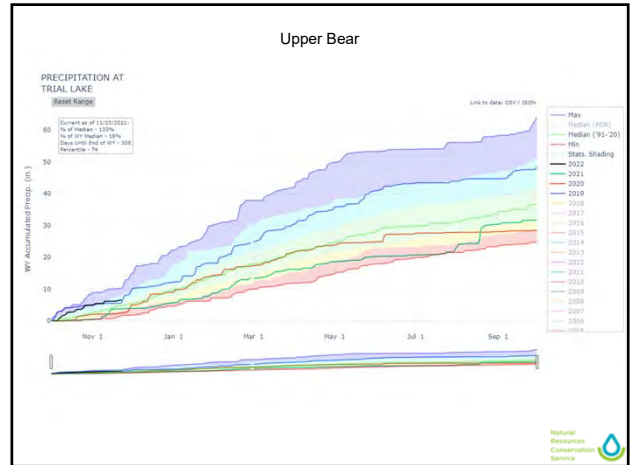
5



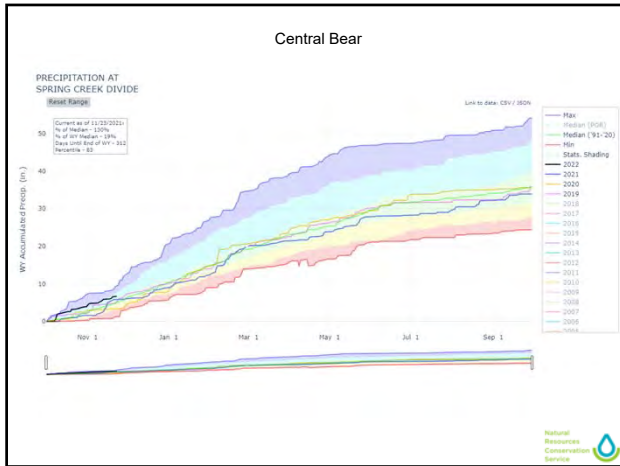
6



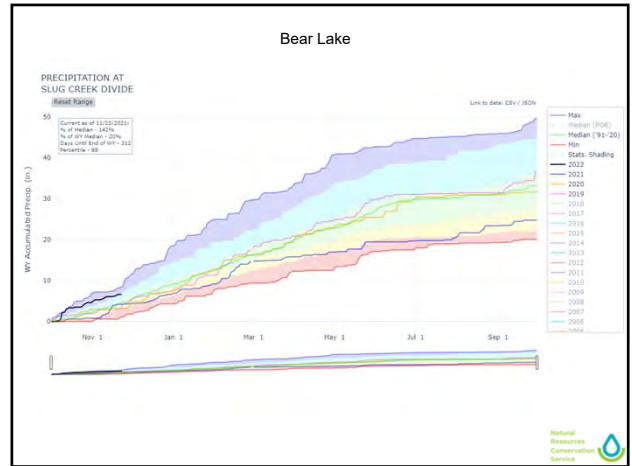
7



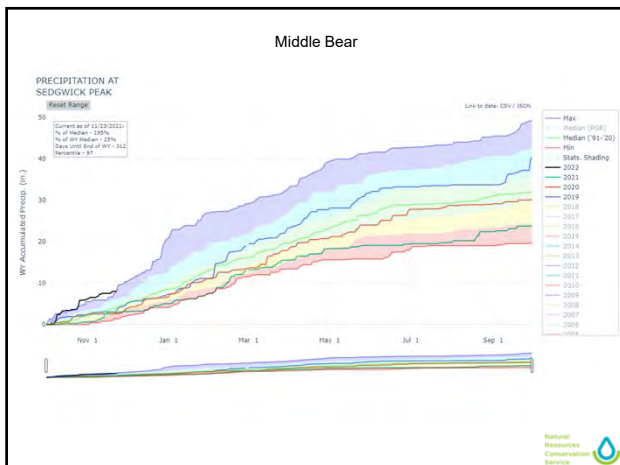
8



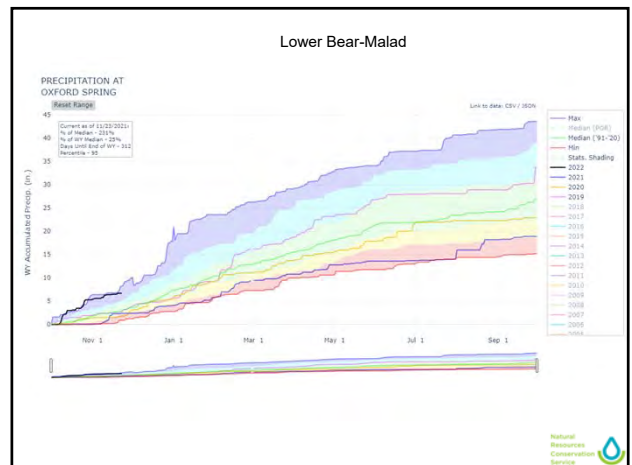
9



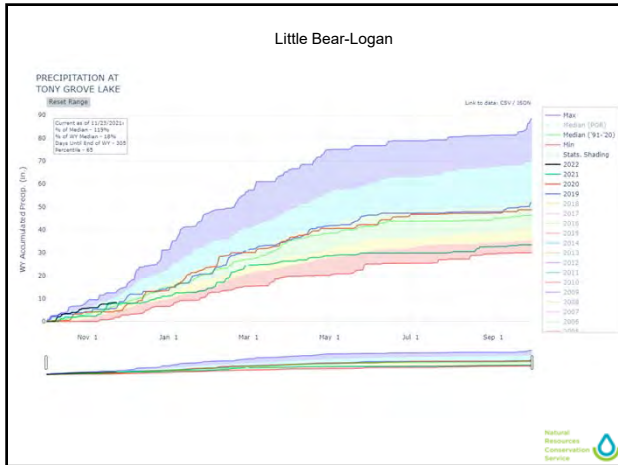
10



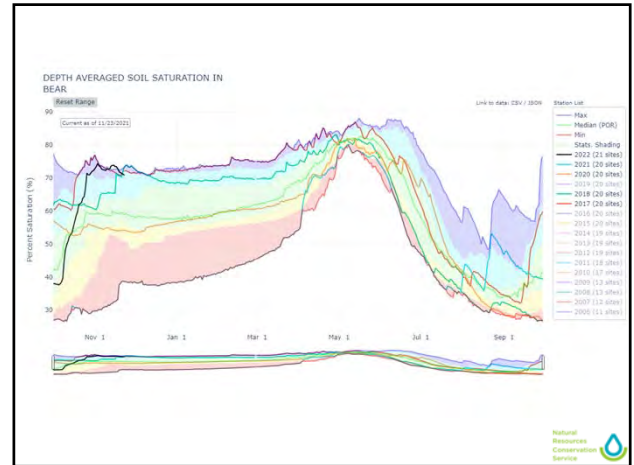
11



12



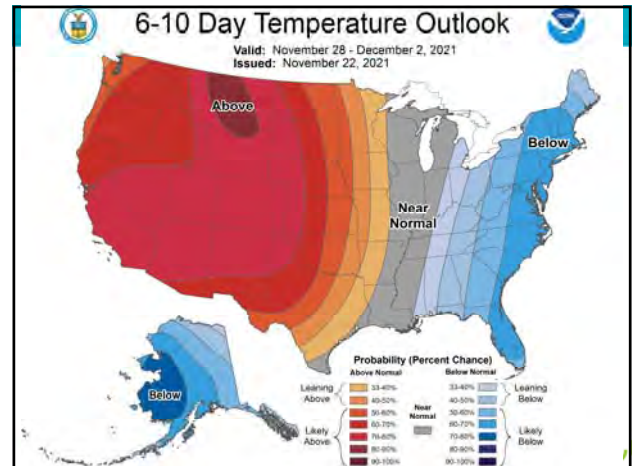
13



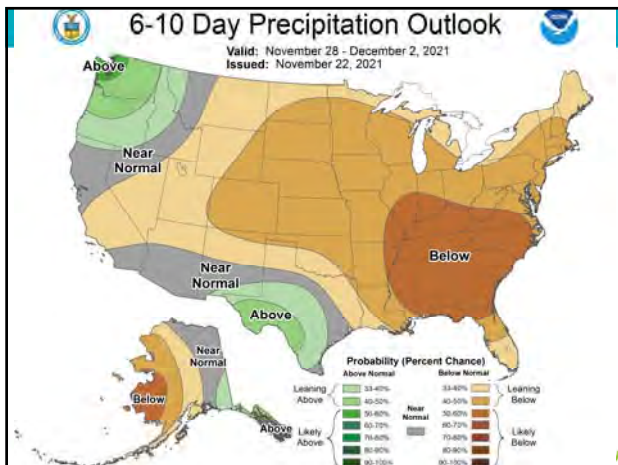
14

Reservoir Storage Summary for the end of October 2021	Current (KAF)	Last Year (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity
Bear Lake	525.7	775.0	1302.0	40%	60%
Hyrum Reservoir	4.5	7.6	15.3	30%	50%
Porcupine Reservoir	3.3	5.2	11.3	30%	46%
Woodruff Creek	1.4	1.7	4.0	36%	42%
Woodruff Narrows Reservoir	10.6	27.0	57.3	18%	47%

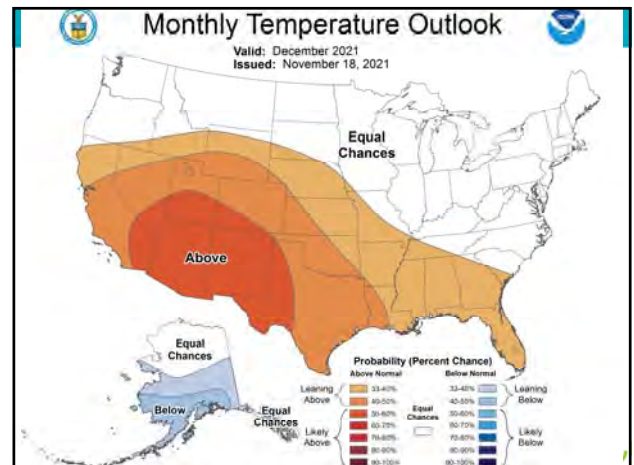
15



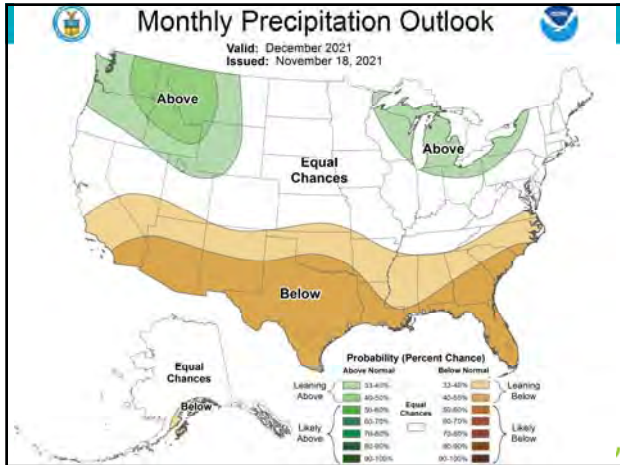
16



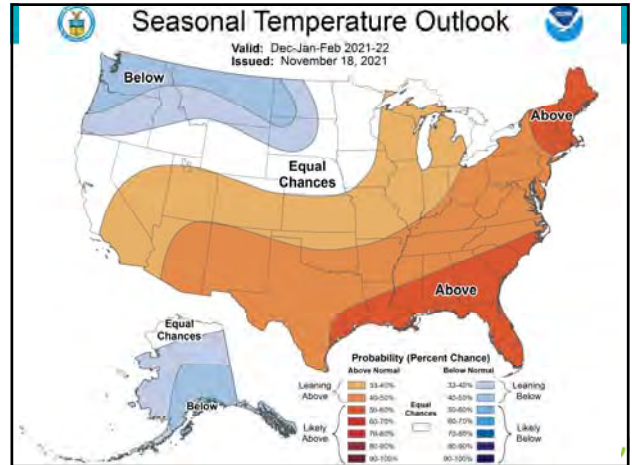
17



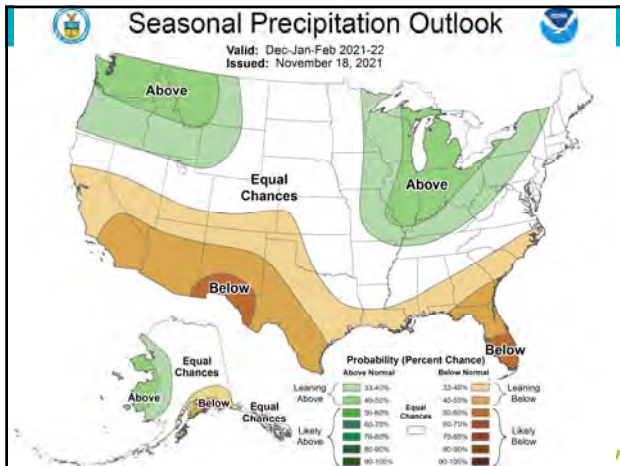
18



19



20



21

**Summary**

1. Snowpack conditions have just started.
  1. Current snowpack is at 20 – 60%.
  2. 133 days till normal snowpack peak.
2. Current water year precipitation at 130 – 230%.
3. Soil moisture currently at about 70% saturation.
4. Reservoirs at 18-40% capacity.
  1. About 20% lower than this time last year.
5. Current weather forecast is for snow through tonight then dry and cold.
6. Extended weather forecasts indicate wetter conditions to the north.
7. Northern areas may benefit from continued La Nina conditions.

22

**Questions**

23





# Dry Canyon Pumped Storage Project

November 23, 2021

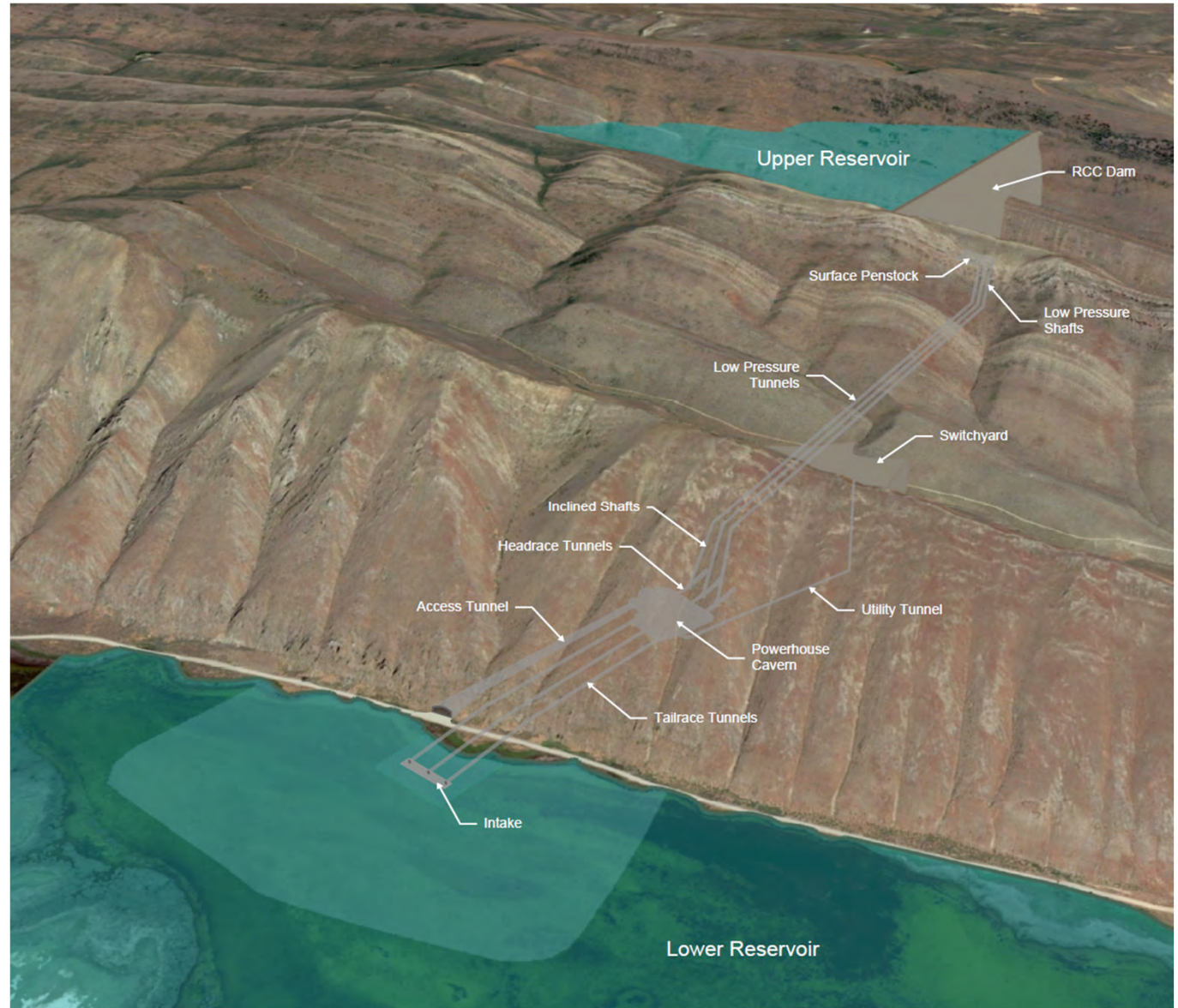
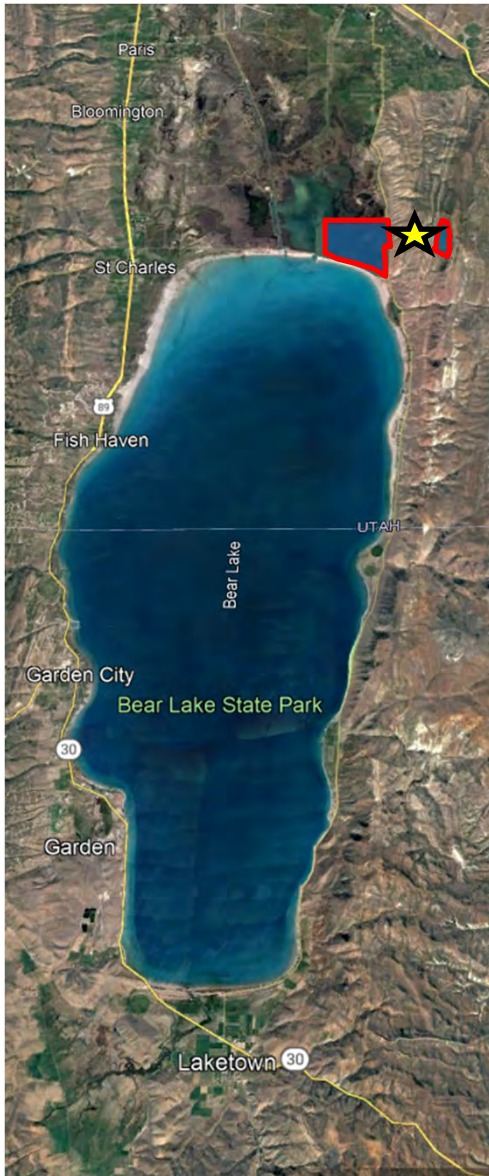
# Dry Canyon Pumped Storage Project

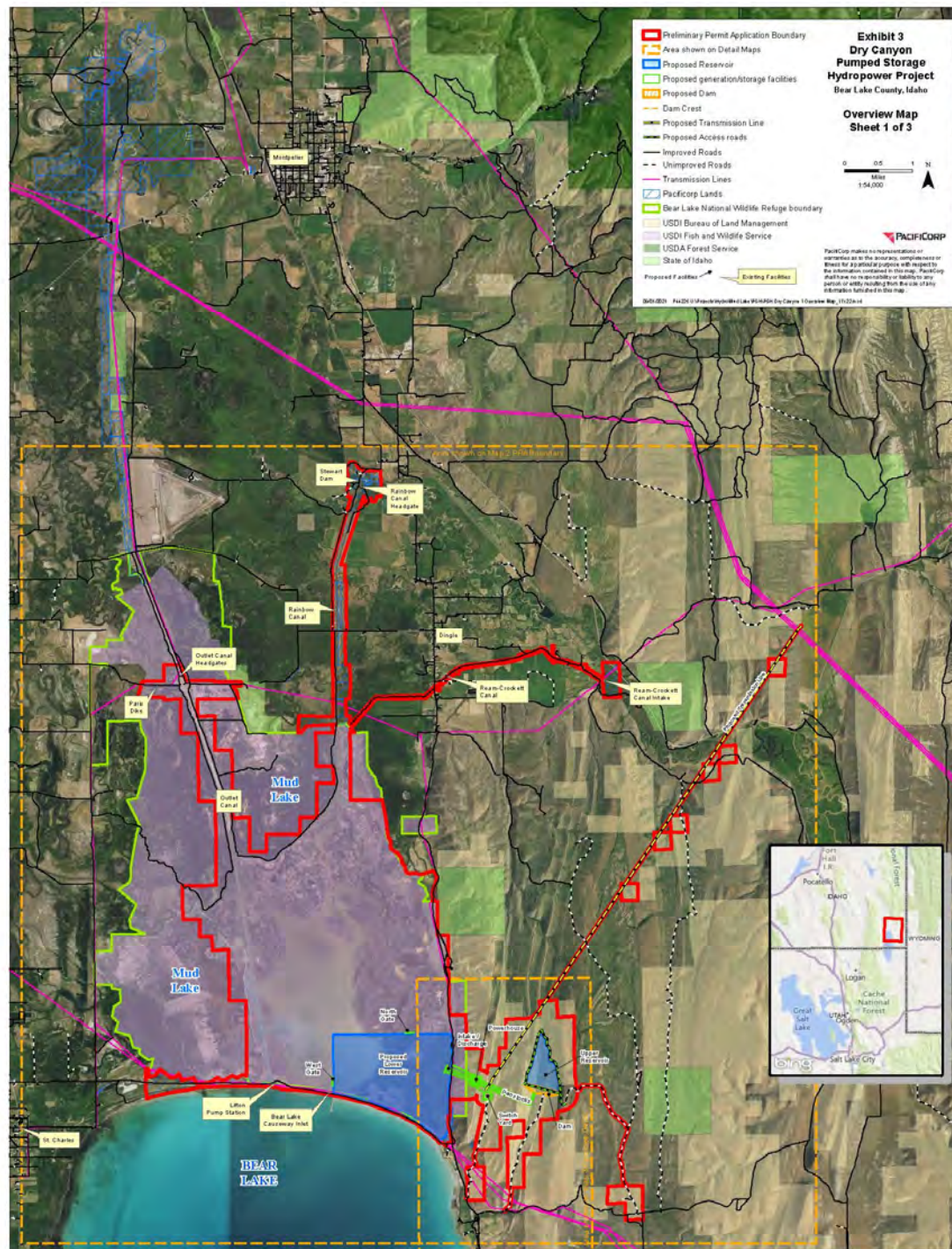


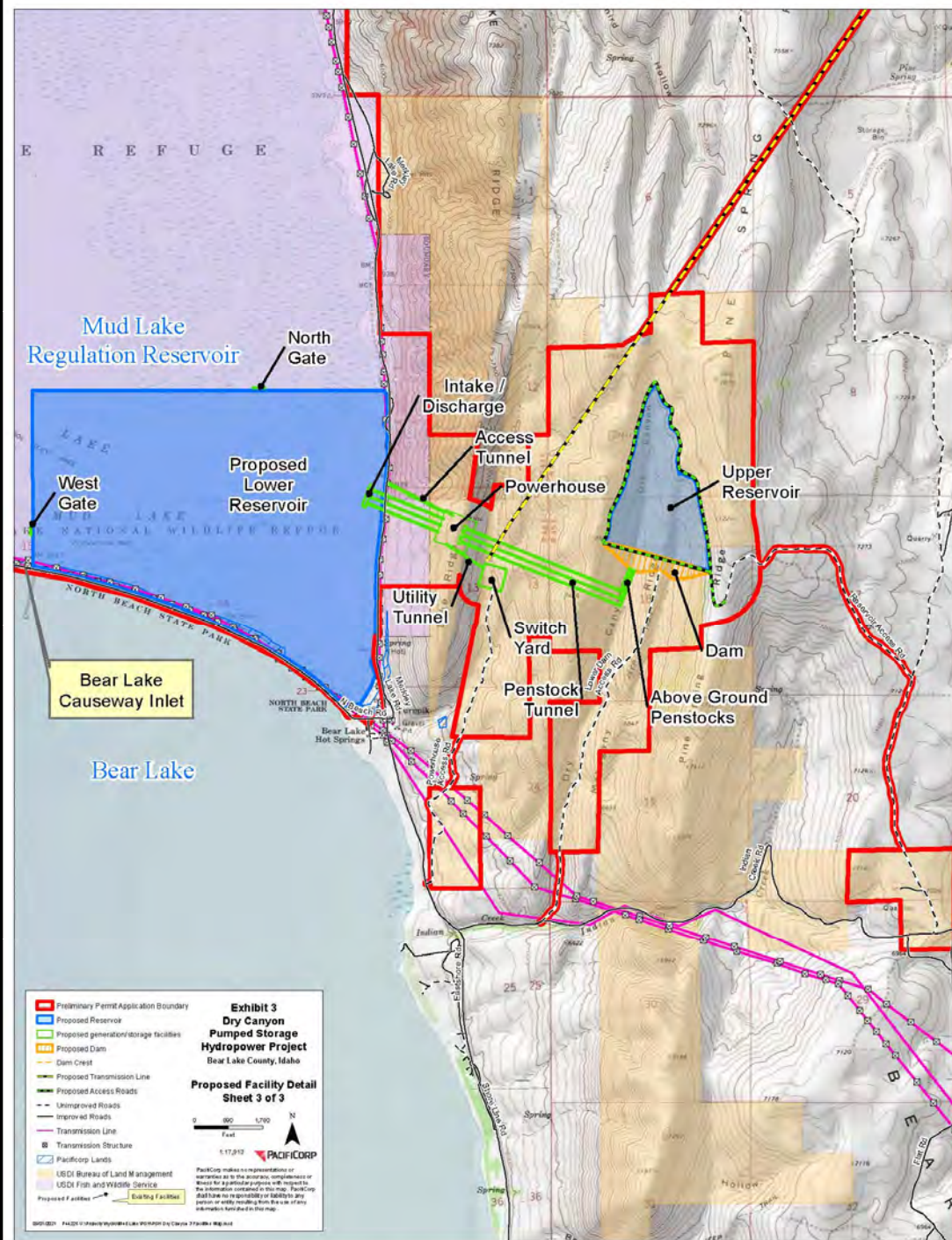
- North of Bear Lake, uses a portion of Mud Lake (lower reservoir) and Dry Canyon (upper reservoir)
  - Project is currently scoped at 1,800 megawatts (MW) to provide significant long-duration (16-hour) storage and grid support
  - Relies upon existing PacifiCorp right of way in Mud Lake for power generation
- Preliminary Permit Application filed Oct 13, 2021 with the Federal Energy Regulatory Commission (FERC)
  - Preserves licensing priority while data is collected to determine project feasibility and to support an application for a license
- Project utilizes PacifiCorp's existing water rights to divert and store Bear River water for both irrigation and power generation purposes; no new water rights needed
  - Idaho and Utah water rights transfer/change applications filed November 22, 2021 to modify conditions of existing rights; specifically adding a new place of use at the Dry Canyon pumped storage project, potentially adding a new point of diversion in Mud Lake and adding storage rights in Dry Canyon
- Provides an opportunity to realize major regional benefits
  - Enables PacifiCorp to continue its 107-year operational history on the Bear River System and modernize operations to meet developing regional needs for enhanced water supply certainty and expanded water delivery while integrating more renewable resources to meet customer energy needs and balance the electrical system through dependable, long-term, cost-effective storage
  - Brings resolution to discussions that have occurred between Idaho, Utah, Wyoming and Bear Lake Watch concerning PacifiCorp's water development concepts to increase Bear Lake storage, which benefits all three states (Idaho, Utah, Wyoming)
  - Provides higher water levels in Bear Lake and water quality improvements, enhancing recreational enjoyment of Bear Lake
  - Proposed mitigation will enhance aquatic habitat at the Bear Lake Wildlife Refuge to benefit waterfowl



# Dry Canyon Pumped Storage







# Benefits to PacifiCorp's Customers and State and Local Economies



- Large scale pumped storage at the intersection of PacifiCorp's east and west transmission system balancing authority areas provides PacifiCorp's customers with a dependable proven storage technology that could cost-effectively support electrical system reliability given increasing renewable energy resources
- Additional stored water and water supply certainty will be available for water users in Wyoming, Idaho, and Utah, as recently discussed with the states, providing an opportunity for all parties to work together to achieve the significant benefits of enhanced Bear Lake storage
  - Idaho, Utah, and Wyoming will benefit from increased water supply certainty associated with increased Bear Lake storage that is in conjunction with the project proposal – increased storage reduces future supply constraints associated with drought conditions and helps meet increasing water needs associated with expanding local economic development opportunities
- Local economies will benefit from construction-related jobs and sales tax revenue, with ongoing economic benefits to the local region as a result of property tax revenues and long-term jobs and economic activity associated with project operations and maintenance
  - Estimated jobs during construction: 1,000 – 2,500
  - Estimated construction sales tax revenue: \$125 million
  - Estimated long-term jobs (facility only): 38
  - Estimated annual property tax revenue: \$25 million
- Project can enhance local renewable energy development opportunities by leveraging system integration and transmission optimization possible with a pumped storage project
  - Provides opportunity for additional renewable energy projects (solar and wind) to be constructed in Utah, Idaho and Wyoming with associated economic benefits



# Benefits for Bear Lake



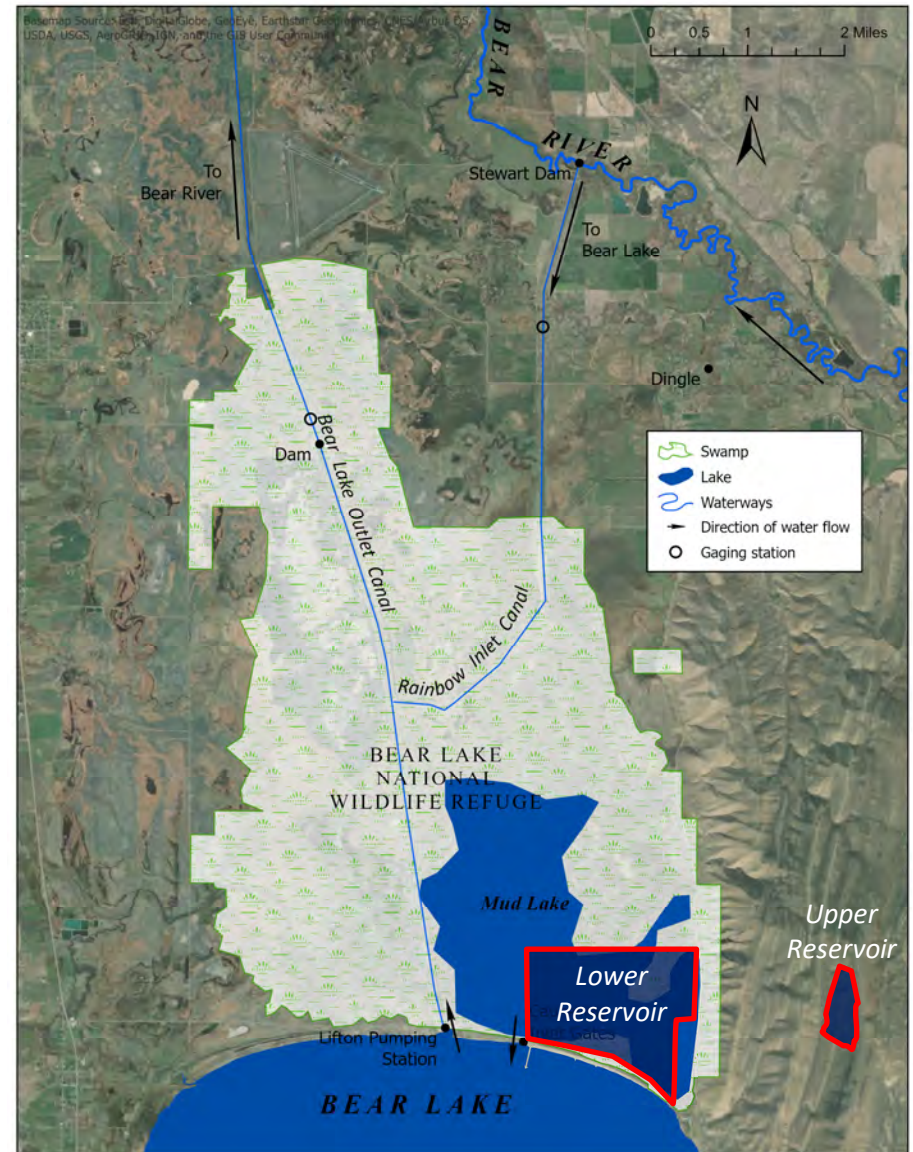
- Additional water stored in Bear Lake from the increased storage component benefits residents and recreationists
  - Additional incremental storage of 150,000 to 200,000 acre-feet in Bear Lake is anticipated on an average 10-year cycle based on historic hydrology as a result of changed flood control levels made possible by obtaining flow easements in the Gentile Valley
  - Bear Lake water levels would increase approximately 2.0 feet during wettest years
- Higher year-round lake elevation means less Bear River water diverted into Bear Lake with associated sediment load that impacts water quality
- Less Bear River water diverted into Bear Lake means greater flows will be available in Bear River and to downstream water users
- PacifiCorp will implement improved sediment management measures in Mud Lake to enhance the quality of water diverted into Bear Lake



# Benefits for Bear Lake National Wildlife Refuge



- Mitigation and enhancement measures in Mud Lake will result in no net loss of wetlands and will improve wetland function.
- Wetland impacts in Mud Lake will be compensated per established processes with regulating agencies
- Significant enhancements will be provided to the refuge to support and further the U.S. Fish and Wildlife Service's mission
- Proposed lower reservoir in Mud Lake would cover approximately 1,325 acres of the 18,169-acre Bear Lake National Wildlife Refuge – just 7 percent of refuge area, and within existing active storage reservoir

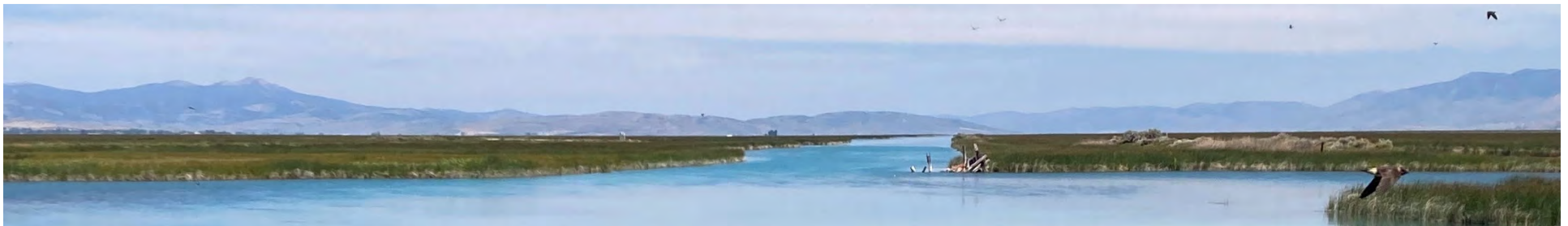




# Water Rights



- The pumped storage project will use PacifiCorp's existing water rights to divert and store water from the Bear River into Bear Lake for both irrigation and power generation purposes
  - No increase to PacifiCorp's water rights is proposed, however, water rights transfer/change applications filed in Idaho and Utah on November 22, 2021 to modify conditions of existing rights by adding a new place of beneficial use, a potential new point of diversion in Mud Lake, and adding water storage rights in Dry Canyons
  - Water rights transfer/change application process provides for public input and ensures no injury to other water right holders
- The additional Bear Lake storage proposed by PacifiCorp in 2017 and studied in coordination with Idaho, Utah, and Wyoming is consistent with PacifiCorp's water rights
  - Revisions to the 3-State Agreement and the Bear Lake Settlement Agreement are necessary to utilize the additional water for new beneficial uses
- Resolution of Gentile Valley issues related to lands that will be impacted by increased river flows for flood control will allow for an increased water supply as a result of changed Bear Lake operations, and allow PacifiCorp to also enhance the operations of the Bear River Project for the benefit of its customers and provide mitigation for evaporative losses from proposed Dry Canyon upper reservoir
  - Enhanced operational flexibility for the Bear River Hydroelectric Project plants will enhance the value of these projects to PacifiCorp's customers
  - Maintaining the economic viability of the Bear River Hydroelectric Project plants benefits local communities through jobs and tax base and provides certainty for irrigators that rely on these projects for diversion works. PacifiCorp's customers will benefit from more flexible hydroelectric operations that can better integrate the intermittent renewable energy mix

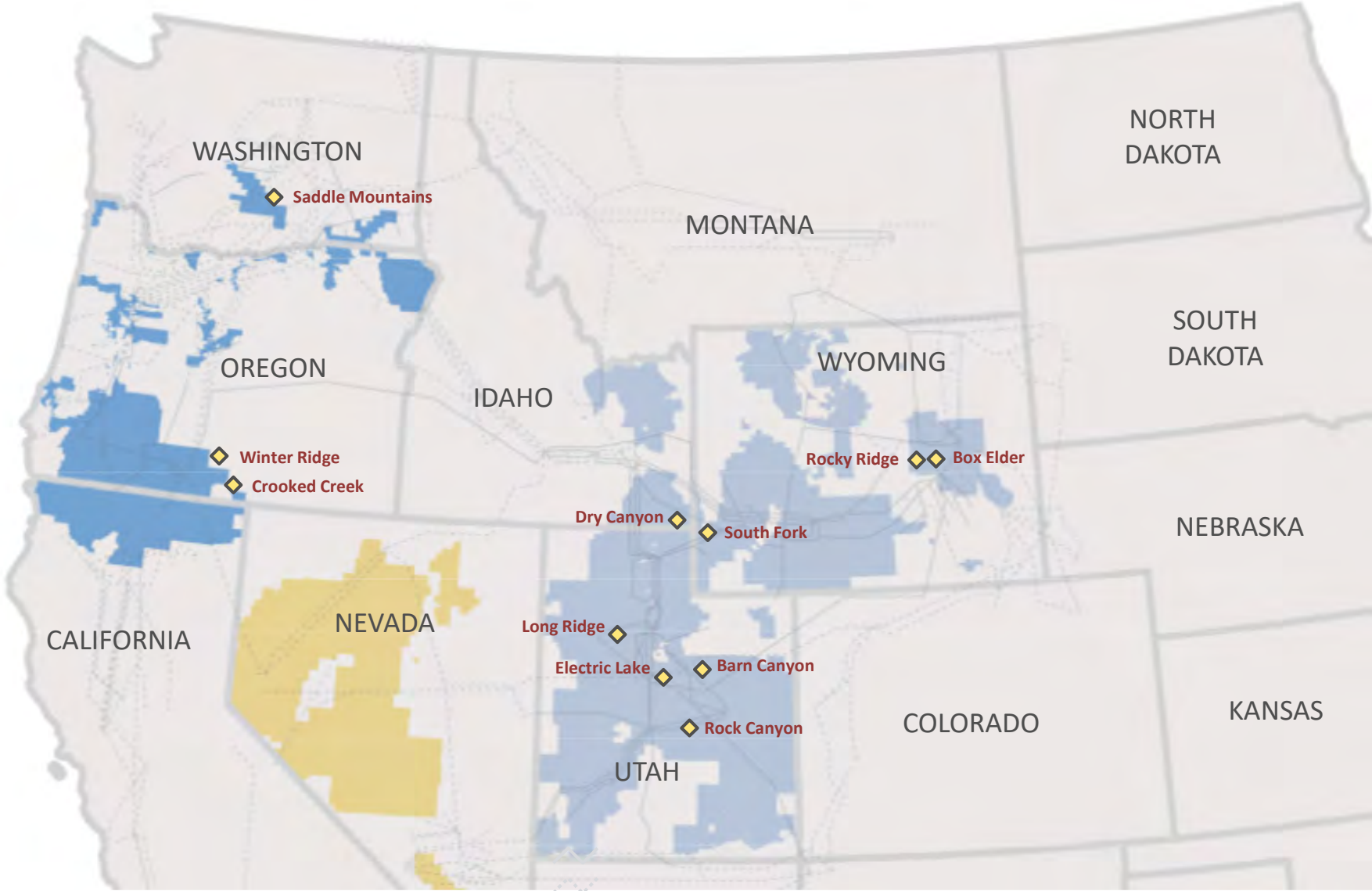


# PacifiCorp Requests State and Stakeholder Support



- PacifiCorp seeks the active engagement and support of Idaho, Utah, and Wyoming government leadership and resource agencies to ensure all interests (community, economic, environmental, and energy) are considered in the various state and federal regulatory processes. State leadership is essential in working towards a comprehensive solution to ensure the Project and associated Bear Lake operational changes advance in a manner that is beneficial to all stakeholders, enhances Bear Lake, and identifies and addresses potential resource impacts
  - State engagement and support will be needed as PacifiCorp works through the pre-licensing process with stakeholders to identify potential mitigation actions for project effects and coordinates efforts to enhance lake levels, water supply, recreation, wildlife habitat, and renewable energy optimization and integration. It will be a multi-year process to obtain a FERC license for the Project, however, project impacts are anticipated to be minimal compared to the scope of the project benefits
- State engagement is necessary to work towards a settlement between PacifiCorp and landowners in the Gentile Valley that will allow PacifiCorp to modify Bear River/Bear Lake operations to provide increased Bear Lake water storage that benefits a broad array of stakeholders
  - Purchase of properties or acquisition of flowage easements in the Gentile Valley will allow PacifiCorp to provide multiple enhanced benefits to all parties, including providing additional water supply that can be used to offset additional Dry Canyon reservoir evaporative losses associated with the pumped storage project, and provide the company with necessary liability protections from potential claims related to lake and river operations
- PacifiCorp seeks the States' concurrence that water modeling efforts indicate that PacifiCorp's water development concept is anticipated to provide an estimated annual benefit of 15,000 acre-feet

# Pumped Storage FERC Filing Locations



# Dry Canyon is one of 11 proposed projects being evaluated



Project	Location	Capacity (MW)	Head (feet)	System Type
Dry Canyon	Mud Lake near Dingle, ID	1800	1,505	Closed Loop
Long Ridge	Near Currant Creek Plant close to Mona, UT	500	1,610	Closed Loop
Barn Canyon	Near former Carbon Plant close to Helper, UT	200 – 300	2,005	Closed Loop
Electric Lake	Electric Lake near Huntington, UT	500	950	Open Loop
Rock Canyon	Near Hunter Plant close to Castle Dale, UT	500	2,163	Closed Loop
Rocky Ridge	Glenrock, WY	500	1,455	Closed Loop
Box Elder	Glenrock, WY	500	890	Closed Loop
South Fork	Viva Naughton Reservoir near Kemmerer, WY	500	1,115	Open Loop
Saddle Mountains	Beverly, WA	500	1,093	Closed Loop
Crooked Creek	Lake Abert, OR	500	1,922	Closed Loop
Winter Ridge	Summer Lake, OR	500	2,603	Closed Loop



# PACIFICCORP

**Rocky Mountain Power | Pacific Power**

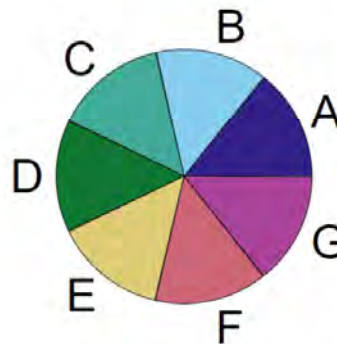
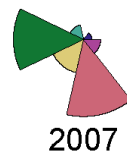
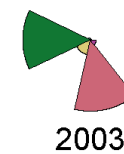
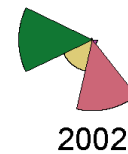
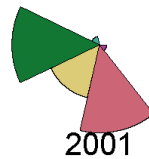
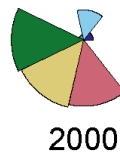
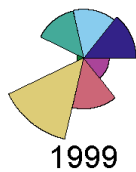
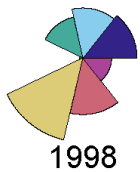
# SUMMARY OF WATER YEAR 2021 BEAR LAKE OPERATIONS

Date	Hydrologic Information/Event	Contents (% of Full) Discharge (% of Normal)
10-01-20	Bear Lake Beginning Elevation - 5,916.34 ft.	911,791 af (64%)
11-13-20	Bear Lake Low Elevation - 5,916.07 ft. (see note 1)	893,396 af (63%)
	Rainbow Inlet Canal Discharge	60,200 af (23%)
	Bear River Discharge Below Stewart Dam	2,880 af
	Bear Lake Net Runoff (Computed Total Inflow less Lake Evaporation)	-19,600 af
05-03-21	Bear Lake High Elevation - 5,916.94 ft.	952,836 af (67%)
	Outlet Canal Releases: 5/2 - 8/21; 8/26 - 10/1 (149 days irrigation releases)	249,000 af
06-16-21	Outlet Canal Maximum Release - 1,680 cfs	
	Bear Lake Storage Release (see note 2, irrigation release 221,000 acre-feet)	236,000 af
09-30-21	Bear Lake Ending Elevation - 5,912.26 ft.	638,844 af (45%)
	Bear Lake Settlement Agreement "System Loss" Volume	15,000 af

Rank	Year	Net Runoff (thousands of acre- feet)	Rank	Year	Lake Rise (feet)
1	1934	-87	1	1977	0.39
2	1940	-39	2	2000	0.63
3	1961	-29	3	1981	0.66
<b>4</b>	<b>2021</b>	<b>-20</b>	4	1990	0.69
5	1992	-19	5	1961	0.73
6	2002	-19	6	1934	0.82
7	1990	-17	7	1953	0.82
8	1931	-14	8	1940	0.84
9	2001	-11	<b>9</b>	<b>2021</b>	<b>0.87</b>
10	1981	-7	10	1931	0.88

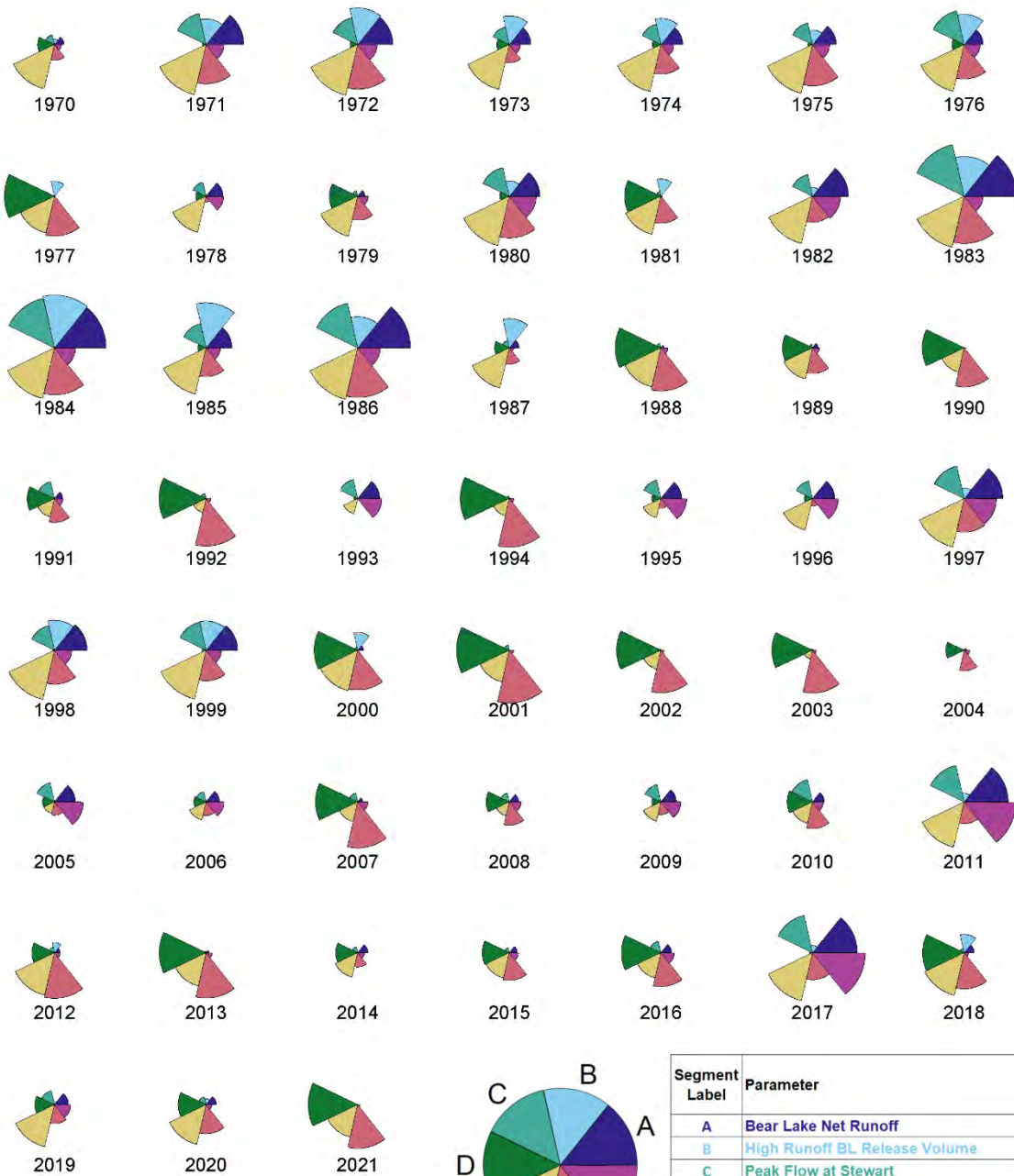
*Table 1. Bottom 10 years in terms of Bear Lake net runoff and lake increase from previous fall minimum.*

# Bear Lake Annual Summary Plots



Segment Label	Parameter
A	Bear Lake Net Runoff
B	High Runoff BL Release Volume
C	Peak Flow at Stewart
D	Bear Lake Irrigation Storage Release
E	Bear Lake Peak Elevation
F	Bear Lake Decline (High to Low)
G	Bear Lake Increase (Low to High)





Segment Label	Parameter
A	Bear Lake Net Runoff
B	High Runoff BL Release Volume
C	Peak Flow at Stewart
D	Bear Lake Irrigation Storage Release
E	Bear Lake Peak Elevation
F	Bear Lake Decline (High to Low)
G	Bear Lake Increase (Low to High)



## Cutler Hydroelectric Project

# Cutler Relicensing Progress: Introduction & Update

- Cutler Hydroelectric Project was last licensed in 1994 and will expire in 2024
- Federal Energy Regulatory Commission is the federal agency that provides regulatory oversight over hydro projects under authority of the Federal Power Act
- No federal lands associated with the Project, and PacifiCorp owns almost all associated lands; authority in FPA stems from water as a public resource, and requires equal consideration to non-power resources along with generation resources – thus, Protection, Mitigation, and Enhancement Measures (PM&Es)
- Since 2018, PacifiCorp has provided a series of opportunities for stakeholder engagement, comments, and questions on the various required relicensing steps
- Major relicensing milestone: October 29, 2021, DLA filed, comments due January 29, 2022





## Cutler Hydroelectric Project

### Action Items / 2021 Project Milestones

- August 2021: PacifiCorp filed USR and Notifies FERC of upcoming DLA
- August 31, 2021: In-Person USR Stakeholder Meeting
- **October 29, 2021: PacifiCorp filed DLA**
- November 2021 through January 2022: Cutler relicensing stakeholders review/file comments on the DLA (90-day comment period)
- March 2022: PacifiCorp to file Final License Application



To access relicensing materials, please go to:

<https://www.pacificorp.com/energy/hydro/cutler.html>

You can email questions or comments to PacifiCorp:

[Cutlerlicense@gmail.com](mailto:Cutlerlicense@gmail.com)

[Eve.Davies@pacificorp.com](mailto:Eve.Davies@pacificorp.com)

[Connely.Baldwin@pacificorp.com](mailto:Connely.Baldwin@pacificorp.com)

# SUMMARY OF WATER YEAR 2021 BEAR LAKE OPERATIONS

Date	Hydrologic Information/Event	Contents (% of Full) Discharge (% of Normal)
10-01-20	Bear Lake Beginning Elevation - 5,916.34 ft.	911,791 af (64%)
11-13-20	Bear Lake Low Elevation - 5,916.07 ft. (see note 1)	893,396 af (63%)
	Rainbow Inlet Canal Discharge	60,200 af (23%)
	Bear River Discharge Below Stewart Dam	2,880 af
	Bear Lake Net Runoff (Computed Total Inflow less Lake Evaporation)	-19,600 af
05-03-21	Bear Lake High Elevation - 5,916.94 ft.	952,836 af (67%)
	Outlet Canal Releases: 5/2 - 8/21; 8/26 - 10/1 (149 days irrigation releases)	249,000 af
06-16-21	Outlet Canal Maximum Release - 1,680 cfs	
	Bear Lake Storage Release (see note 2, irrigation release 221,000 acre-feet)	236,000 af
09-30-21	Bear Lake Ending Elevation - 5,912.26 ft.	638,844 af (45%)
	Bear Lake Settlement Agreement "System Loss" Volume	15,000 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

The daily average Bear Lake elevation for November 21, 2021 was 5912.37 feet. There is 150 cfs in the Rainbow Inlet Canal. The Bear Lake Outlet Canal is closed. The recent seasonal low elevation was 5912.21, which occurred on October 6, 2021. Currently, all inflow is being stored and the March 31, 2022 PacifiCorp Target Elevation (PTE) is 5918.0 feet, consistent with the *Operations Agreement for PacifiCorp's Bear River System*.

## Summary of Water Year 2021

The Bear Lake Irrigation Storage Allocation for 2021 was 245,000 acre-feet. Runoff was much below normal, with Bear Lake net runoff at -19,600 acre-feet. Due to the very-low runoff, storage water was a larger-than-normal portion of the total irrigation supply for companies with senior water rights that are typically met with natural flow, resulting in concerns about exceeding the allocation. Preparations were undertaken to allow irrigation deliveries in excess of the allocation, but precipitation events increased natural flow and decreased demand which obviated the need for accommodations.

## Estimated 2022 Irrigation Allocation

The estimated 2022 irrigation season allocation, assuming normal winter snowpack accumulation and runoff is 245,000 acre-feet. Using historical lake level increases to inform additional estimates of 2022 irrigation allocations may be useful. If the worst year on record recurs (lake rises only 0.4 feet from the seasonal low as it did in 1977), the allocation would be 218,000 acre-feet. If the lake rises at the historical 25<sup>th</sup> percentile level (1.8 feet), the allocation would be 225,000 acre-feet. For context, the 2021 lake level increase was 0.9 feet the 2020 increase was 1.65 feet. The most recent long-range forecasts are mixed, with a hint of above normal snow accumulations for the Dec-Jan-Feb average, but then below normal accumulations. Importantly, soil moisture is currently near observed maximum (since 2007), contrary to the very-dry fall 2021 conditions, which will improve spring runoff efficiency of snow melt.

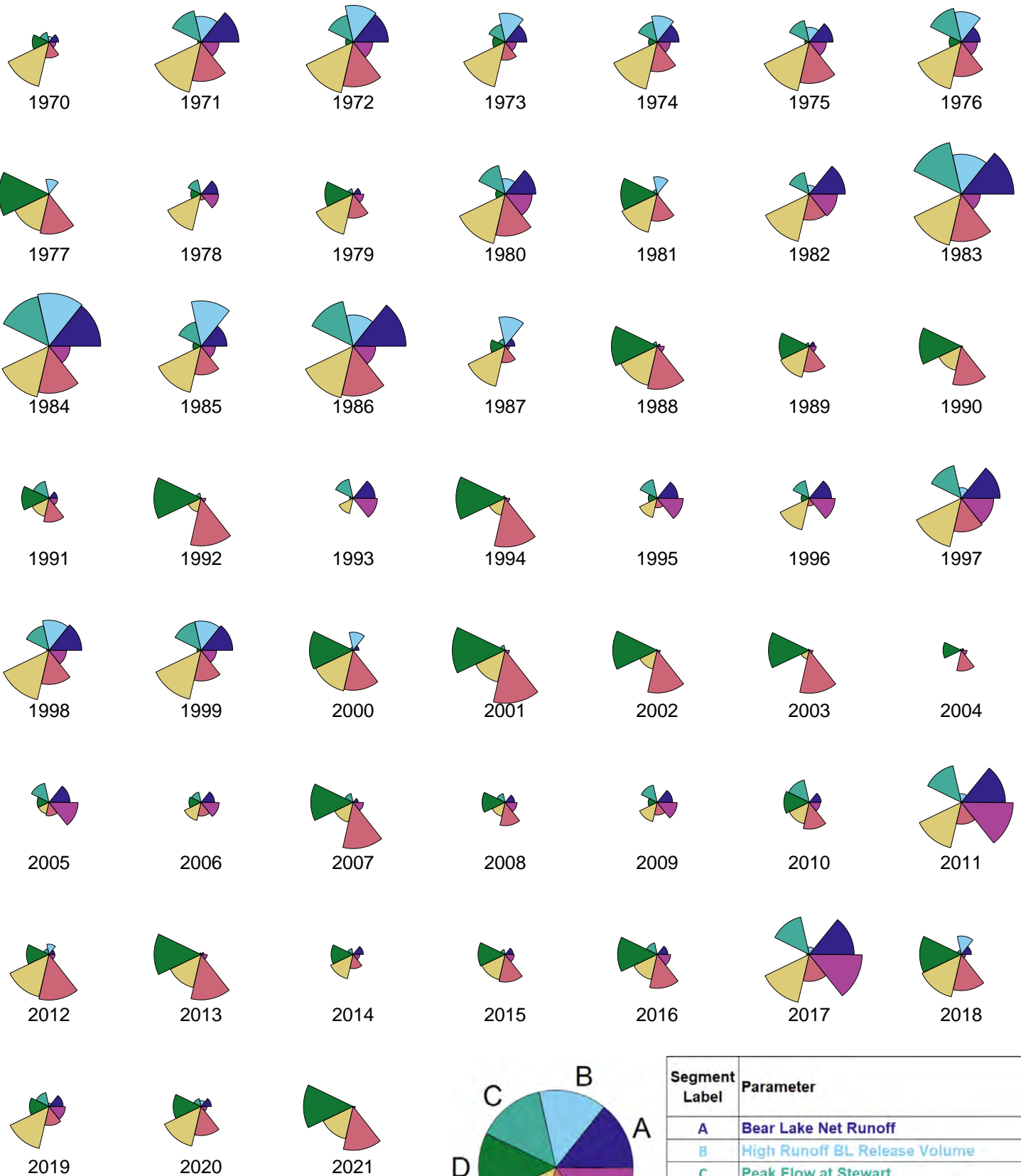
## Operational Notes

- *Bear River Black Canyon Recreational Water Releases* occurred as normal except that one event was rescheduled to fall due to a combination of boater desires and fall maintenance at Grace plant
- Federal Energy Regulatory Commission relicensing efforts at Cutler continue. Studies have been completed, results published and the draft license application has been filed

Rank	Year	Net Runoff (thousands of acre-feet)	Rank	Year	Lake Rise (feet)
1	1934	-87	1	1977	0.39
2	1940	-39	2	2000	0.63
3	1961	-29	3	1981	0.66
4	2021	-20	4	1990	0.69
5	1992	-19	5	1961	0.73
6	2002	-19	6	1934	0.82
7	1990	-17	7	1953	0.82
8	1931	-14	8	1940	0.84
9	2001	-11	9	2021	0.87
10	1981	-7	10	1931	0.88

Table 1. Bottom 10 years in terms of Bear Lake net runoff and lake increase from previous fall minimum.

# Bear Lake Annual Summary Plots



Segment Label	Parameter
A	Bear Lake Net Runoff
B	High Runoff BL Release Volume
C	Peak Flow at Stewart
D	Bear Lake Irrigation Storage Release
E	Bear Lake Peak Elevation
F	Bear Lake Decline (High to Low)
G	Bear Lake Increase (Low to High)