

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 Slaugh, 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
TOTAL INCOME TO				
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			
SUBTOTAL	45,910.00	-	45,910.00
EXPENDED THROUGH COMMISSION			
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	-
SUBTOTAL	99,941.00	10,772.92	89,168.08
TOTAL EXPENSES	145,851.00	107,792.92	135,078.08
CASH BALANCE AS OF 06/30/21			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
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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
TOTAL INCOME TO				
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			
SUBTOTAL	47,902.00	-	47,902.00
EXPENDED THROUGH COMMISSION			
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	-
SUBTOTAL	102,348.00	102,348.00	22,169.22
TOTAL EXPENSES	150,250.00	102,348.00	70,071.22
CASH BALANCE AS OF 11/18/21			221,291.43

BEAR RIVER COMMISSION

DETAILS OF EXPENDITURES

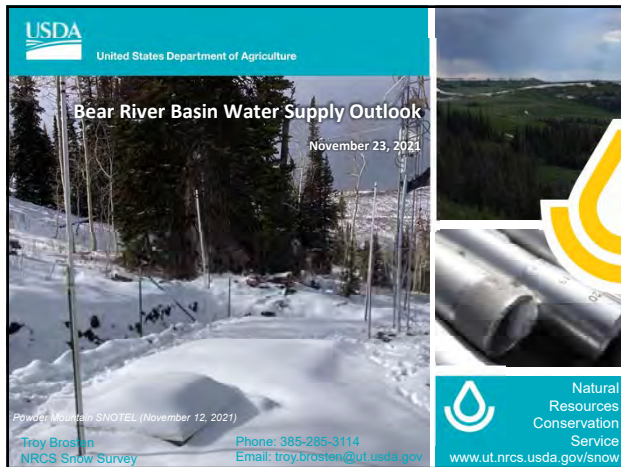
FOR PERIOD ENDING Nov 18, 2021

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
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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



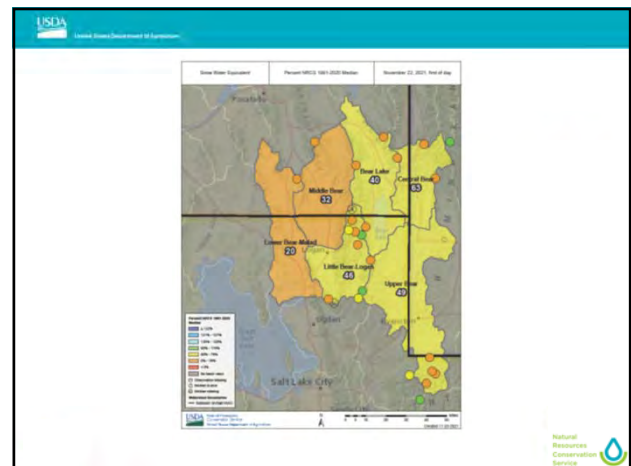
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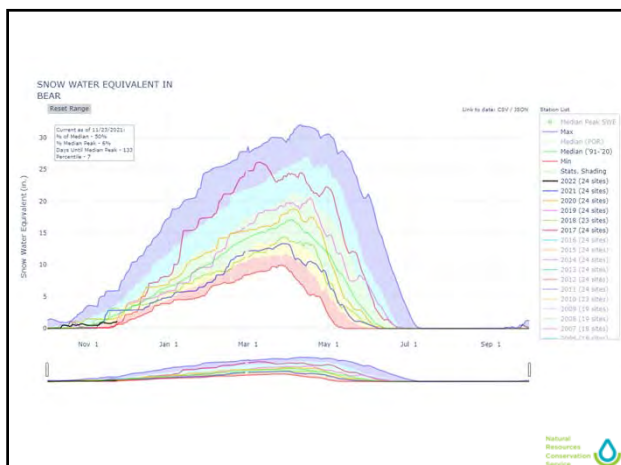
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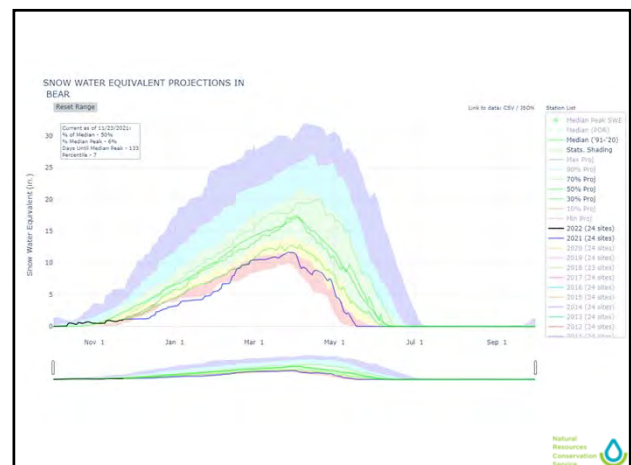
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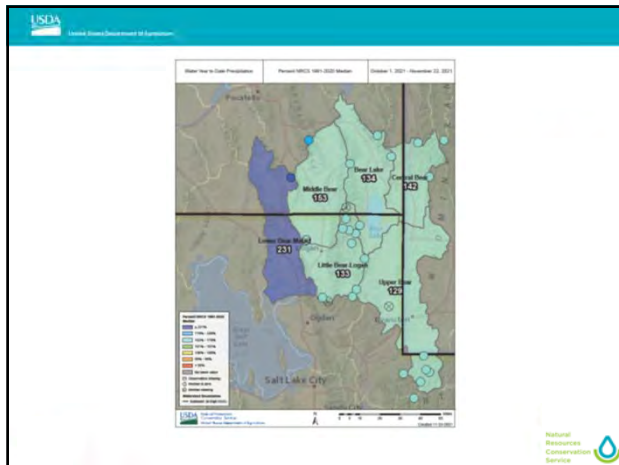
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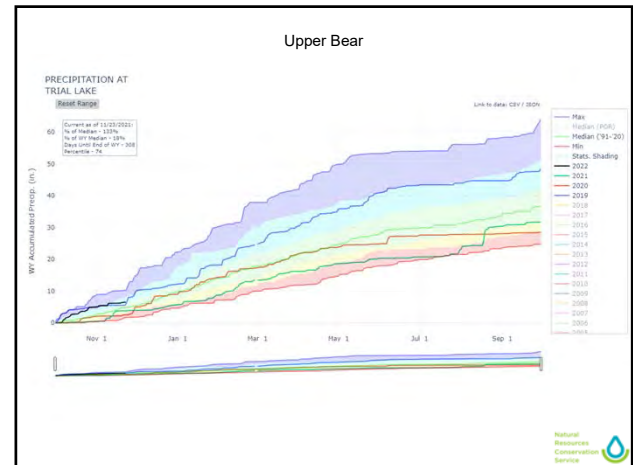
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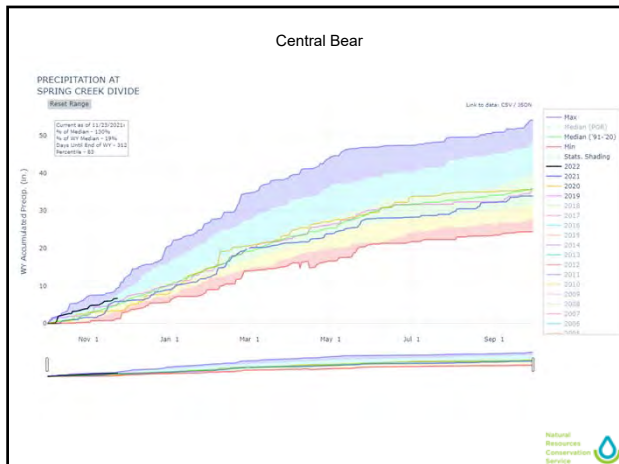
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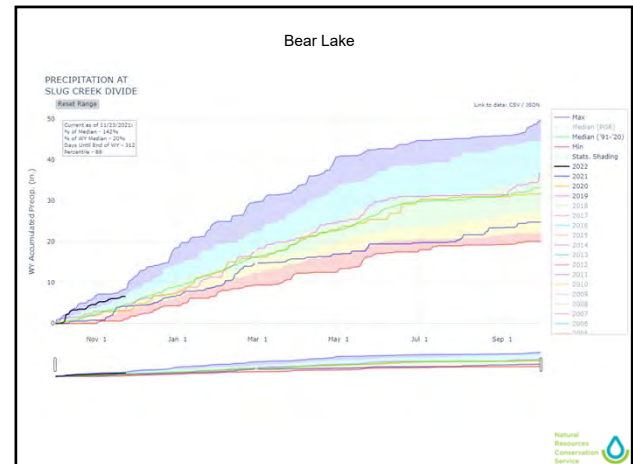
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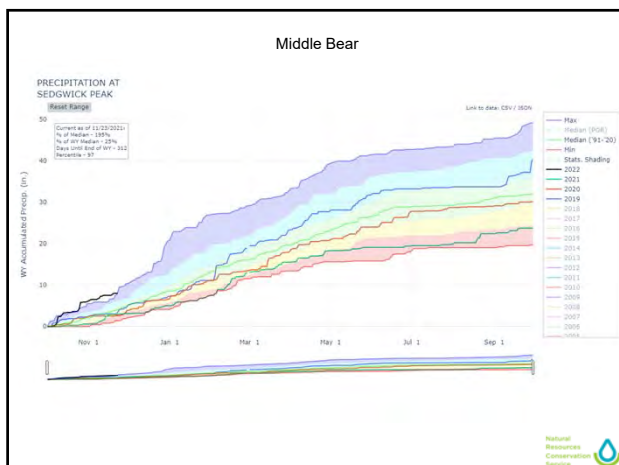
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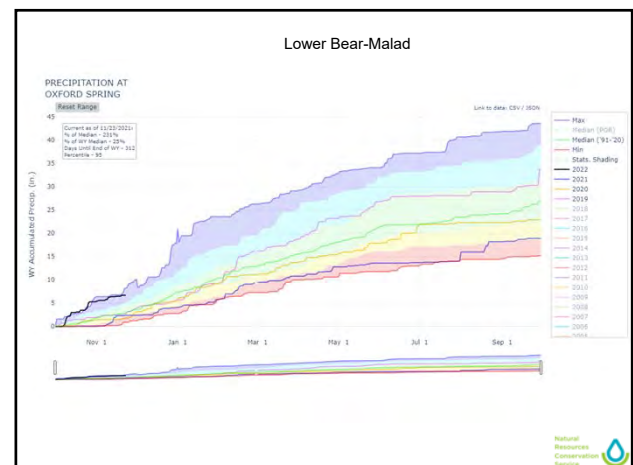
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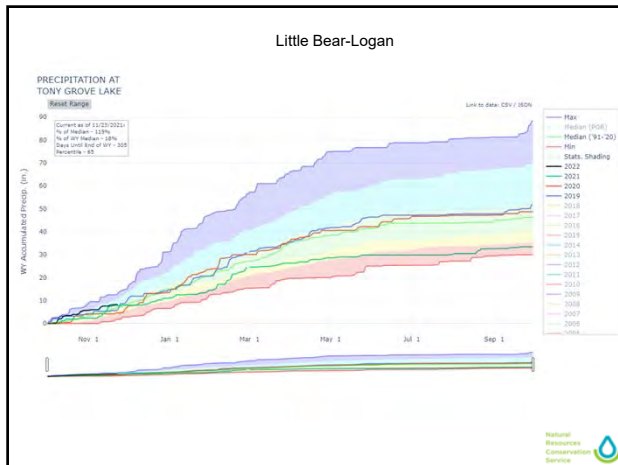
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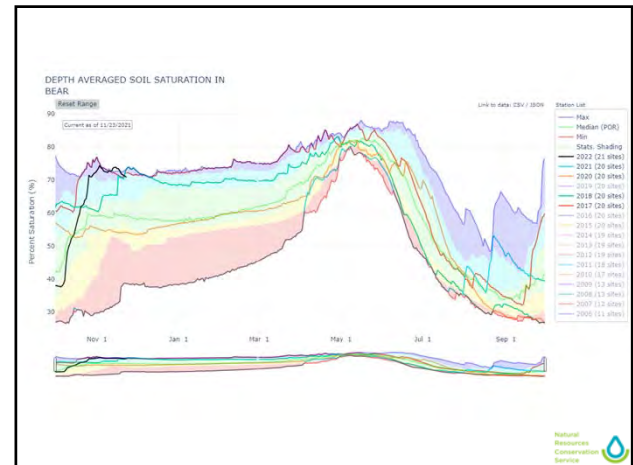
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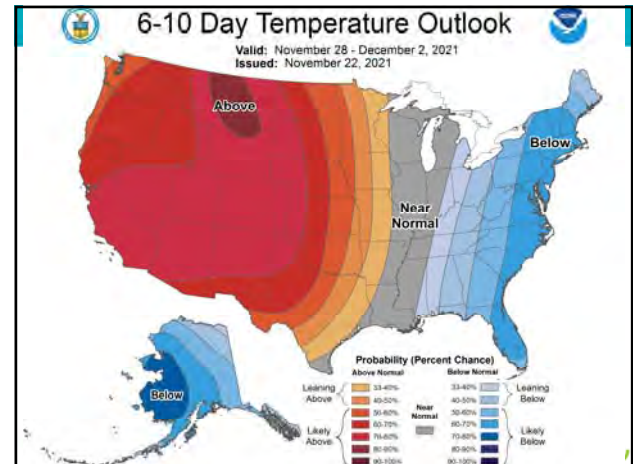
USDA
United States Department of Agriculture

Reservoir Storage Summary for the end of October 2021

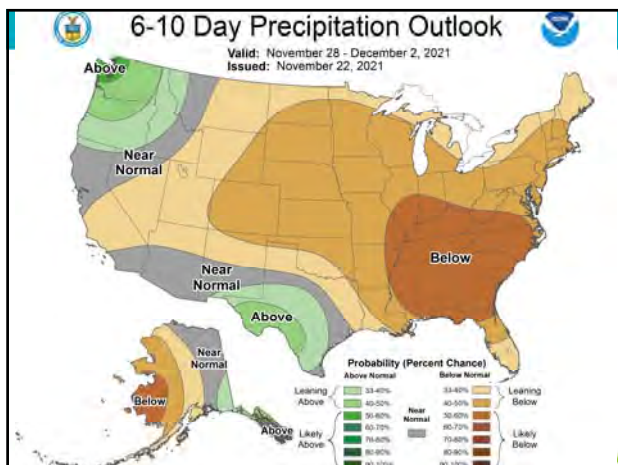
Reservoir Storage Summary for the end of October 2021	Current (KAF)	Last Year (KAF)	Capacity (KAF)	Current % Capacity	Last Year % Capacity
Bear Lake	525.7	775.0	1302.0	40%	60%
Hyrum Reservoir	4.5	7.6	15.3	30%	50%
Porcupine Reservoir	3.3	5.2	11.3	30%	46%
Woodruff Creek	1.4	1.7	4.0	36%	42%
Woodruff Narrows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

Natural Resources Conservation Service

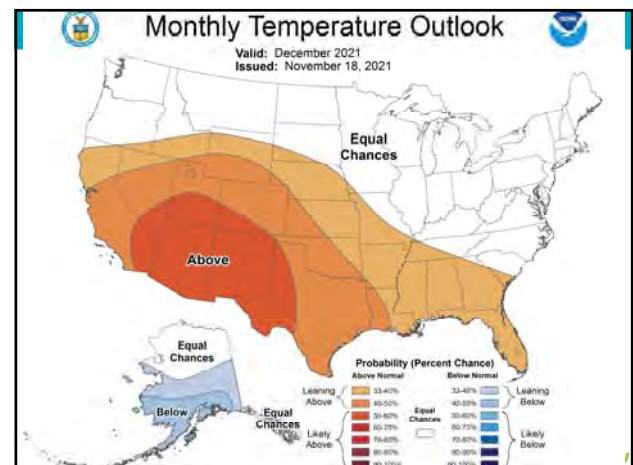
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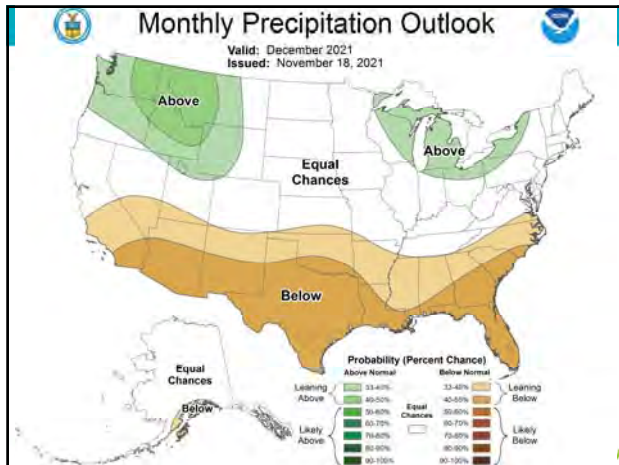
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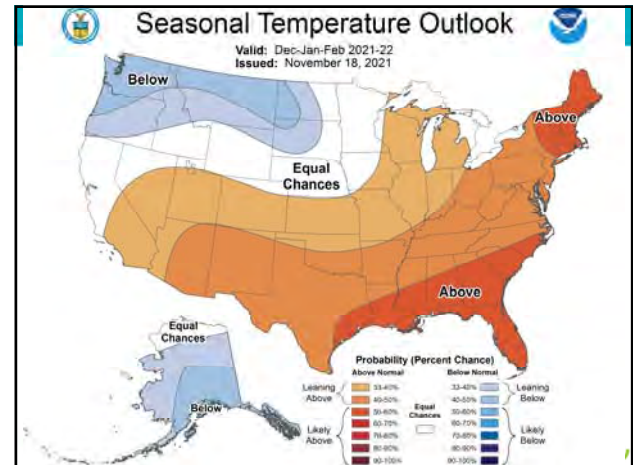
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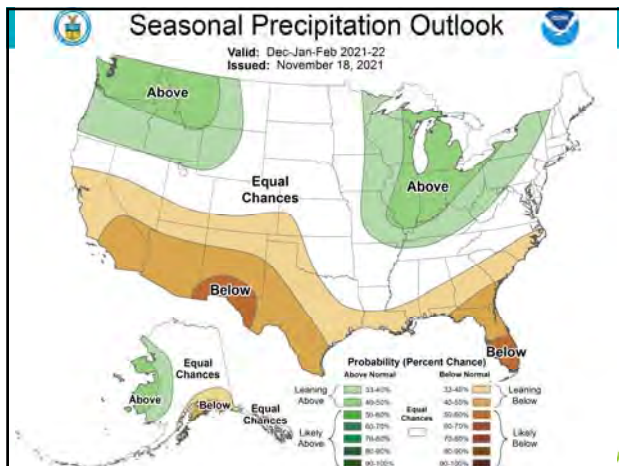
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20



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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.

Natural Resources Conservation Service

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Questions

Natural Resources Conservation Service

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Dry Canyon Pumped Storage Project

November 23, 2021

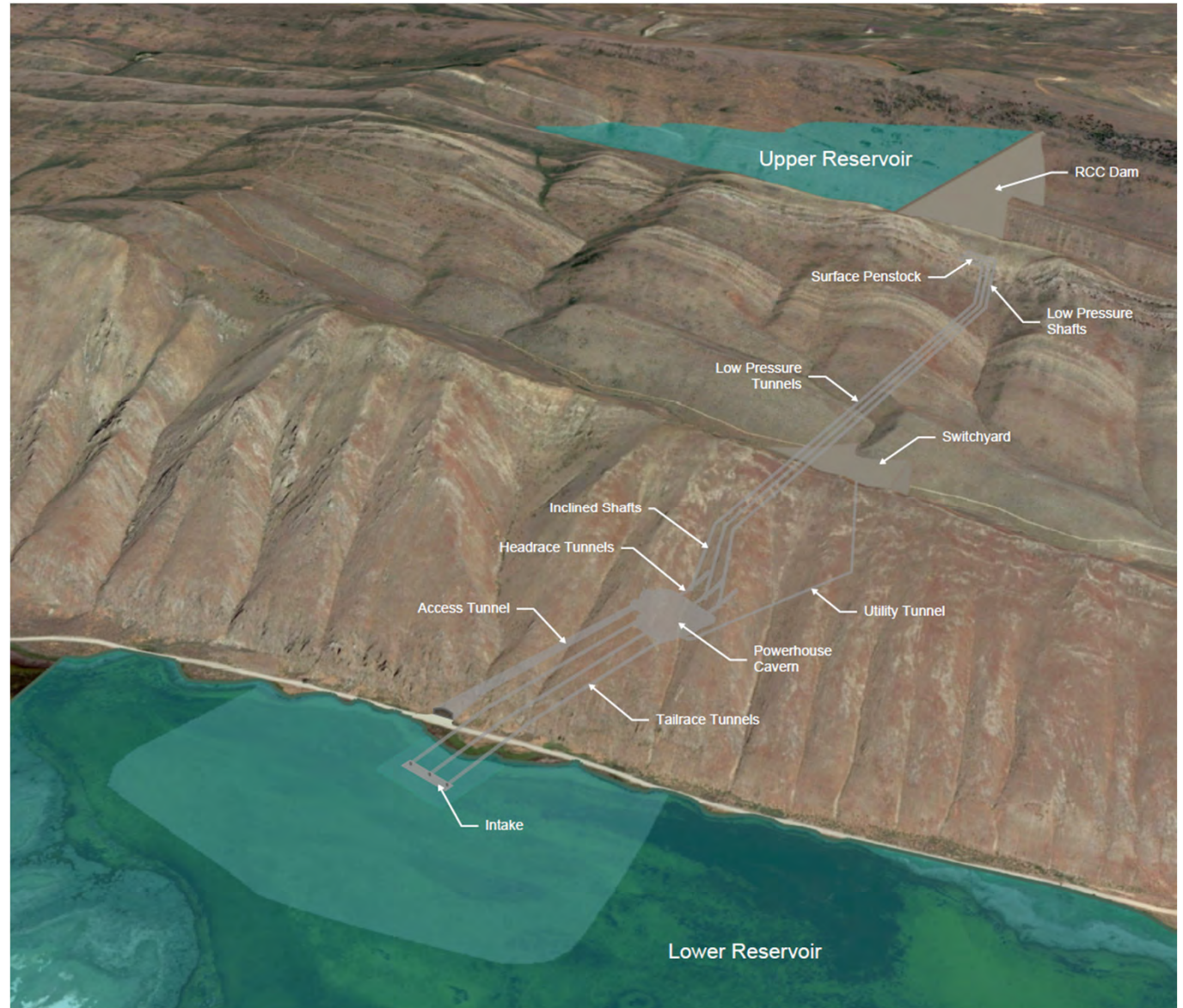
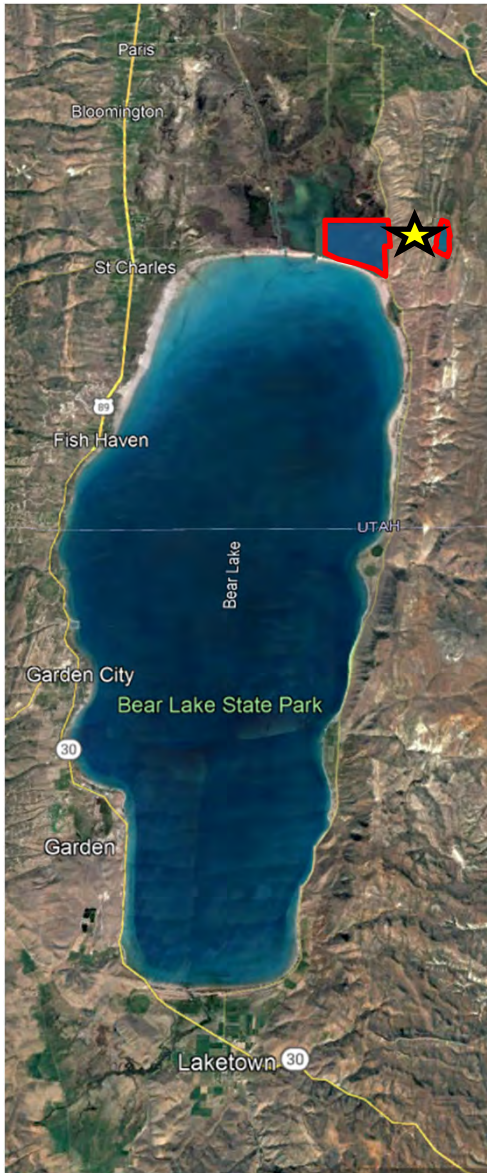
Dry Canyon Pumped Storage Project

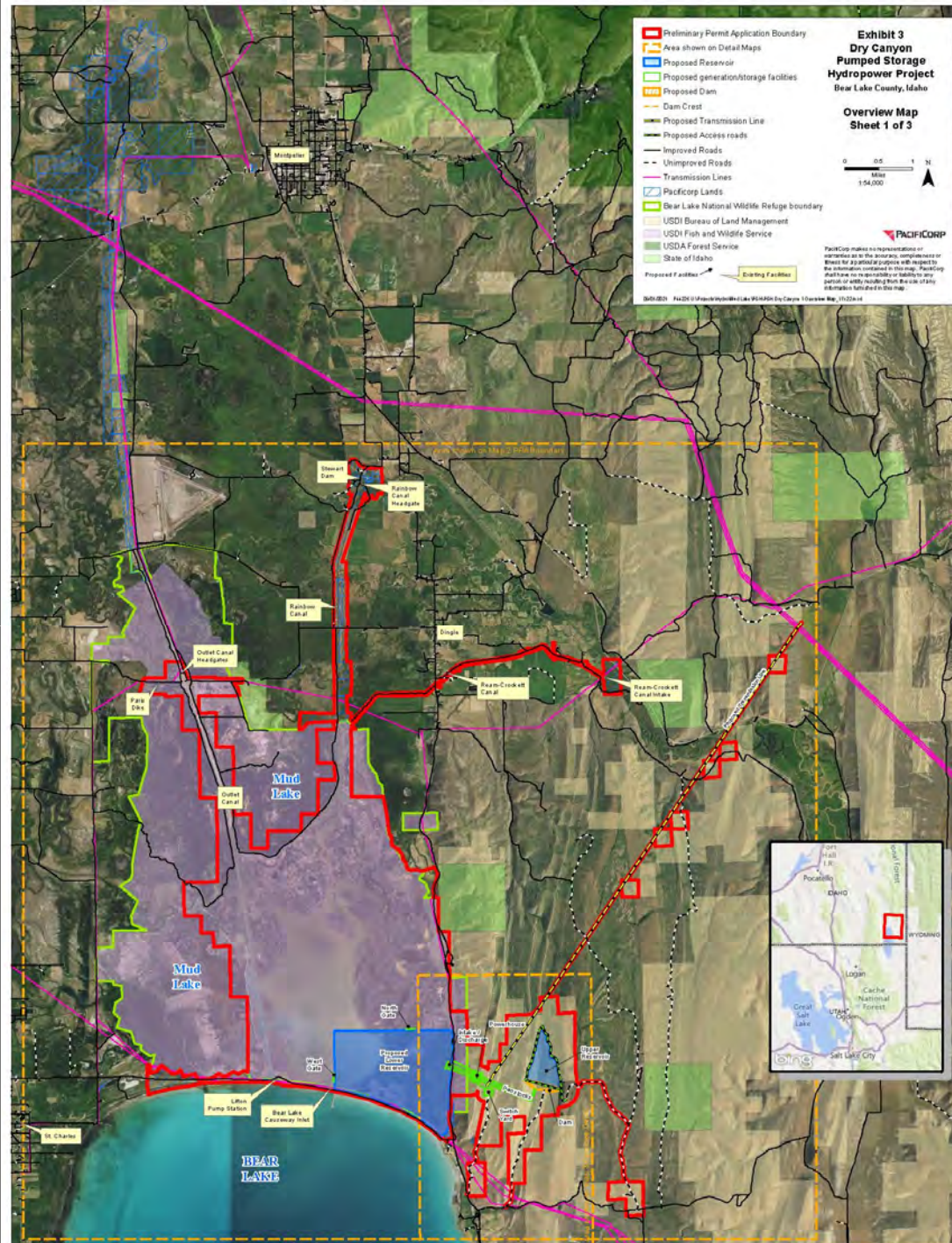


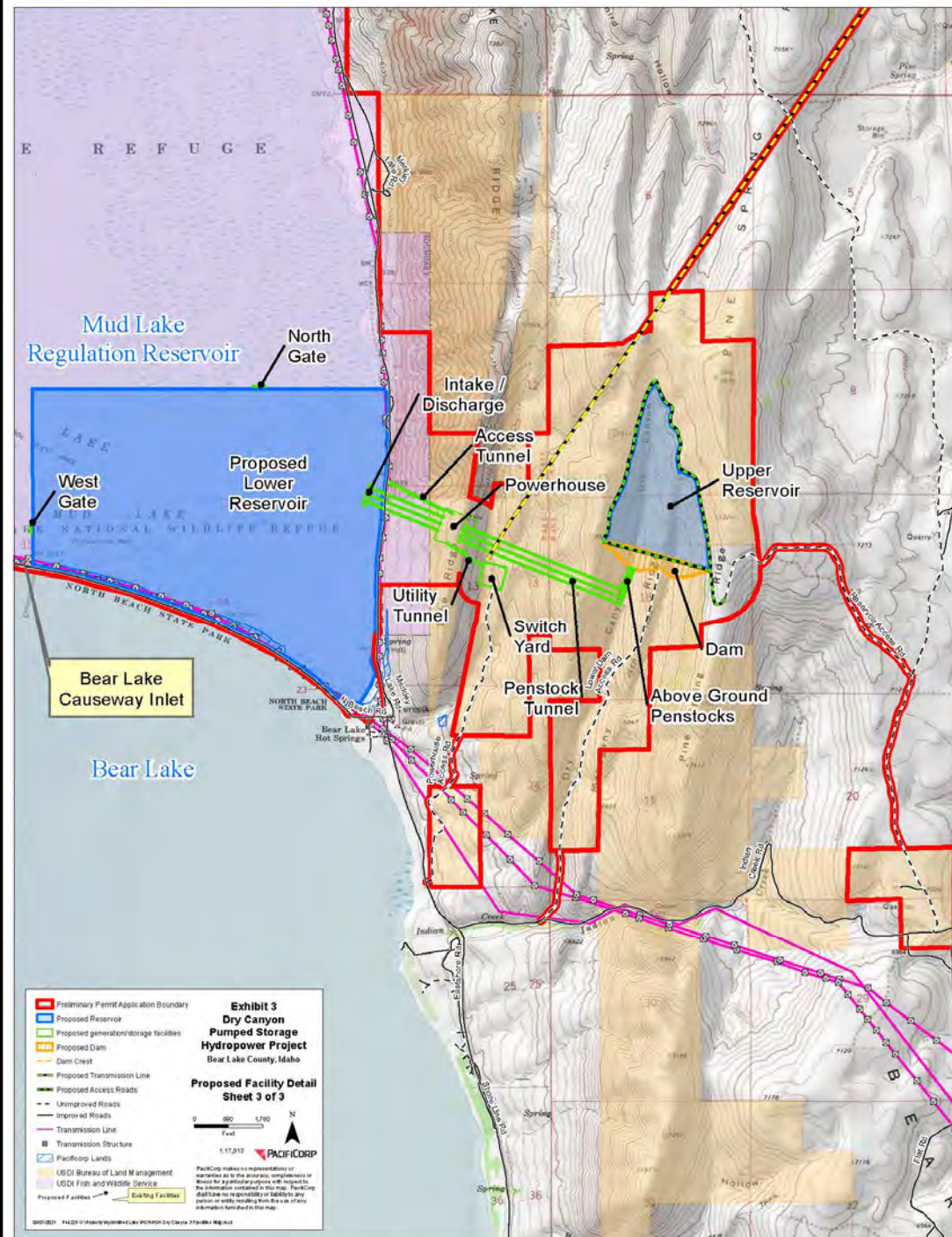
- North of Bear Lake, uses a portion of Mud Lake (lower reservoir) and Dry Canyon (upper reservoir)
 - Project is currently scoped at 1,800 megawatts (MW) to provide significant long-duration (16-hour) storage and grid support
 - Relies upon existing PacifiCorp right of way in Mud Lake for power generation
- 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 long-term jobs (facility only): 38
 - Estimated construction sales tax revenue: \$125 million
 - 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



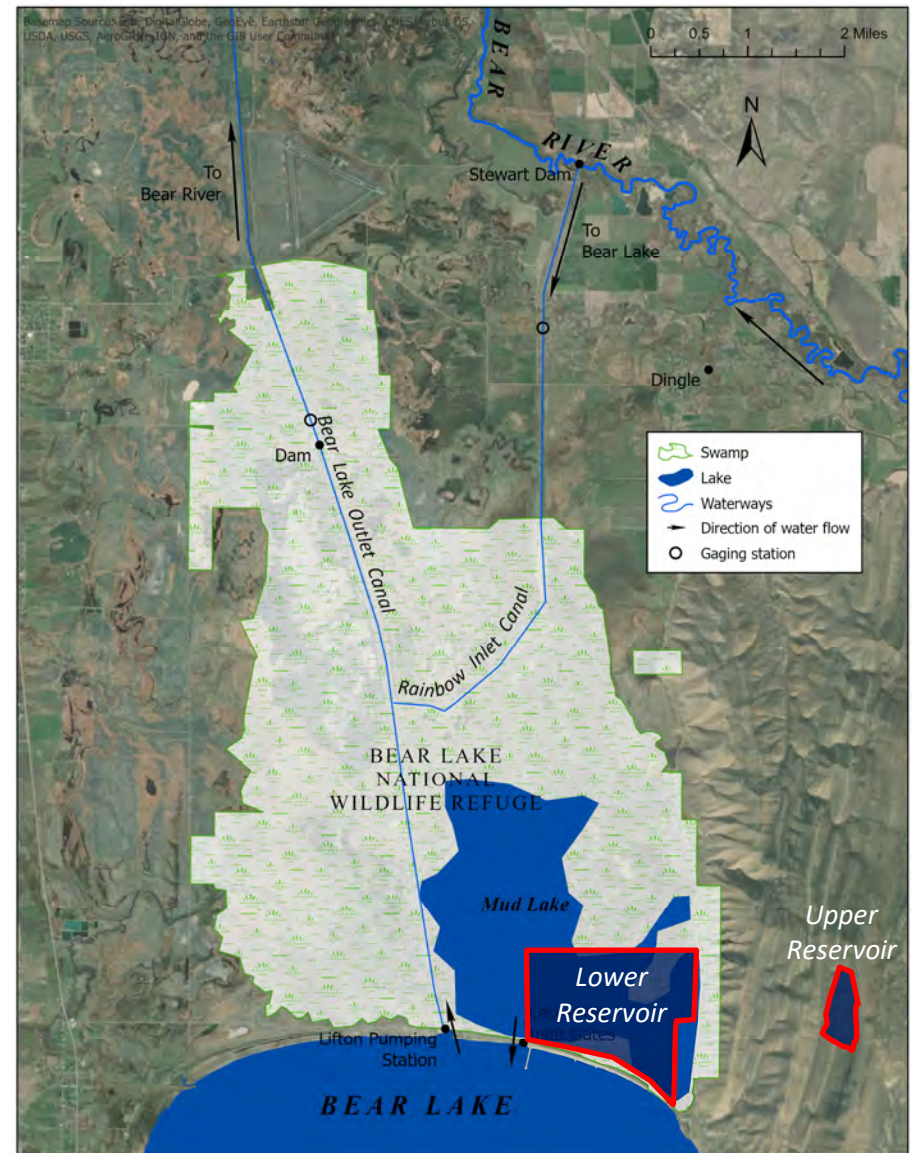
- Additional water stored in Bear Lake from the increased storage component benefits residents and recreationists
 - Additional incremental storage of 150,000 to 200,000 acre-feet in Bear Lake is anticipated on an average 10-year cycle based on historic hydrology as a result of changed flood control 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



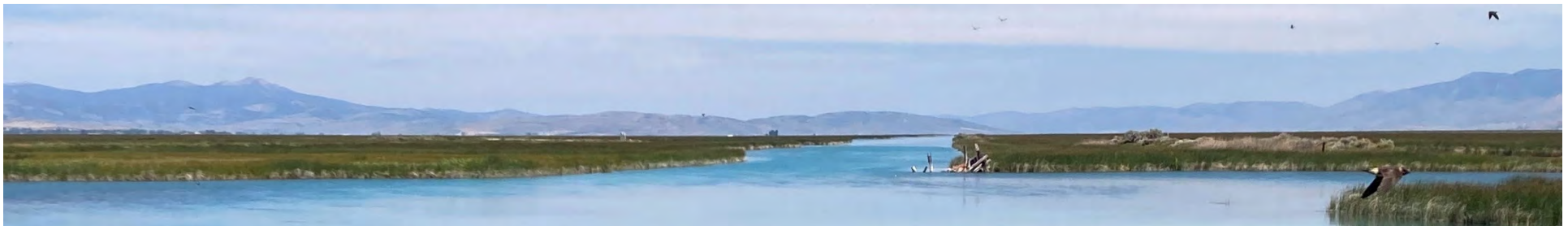
- Mitigation and enhancement measures in Mud Lake will result in no net loss of wetlands and will improve wetland function.
- Wetland impacts in Mud Lake will be compensated per established processes with regulating agencies
- Significant enhancements will be provided to the refuge to support and further 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

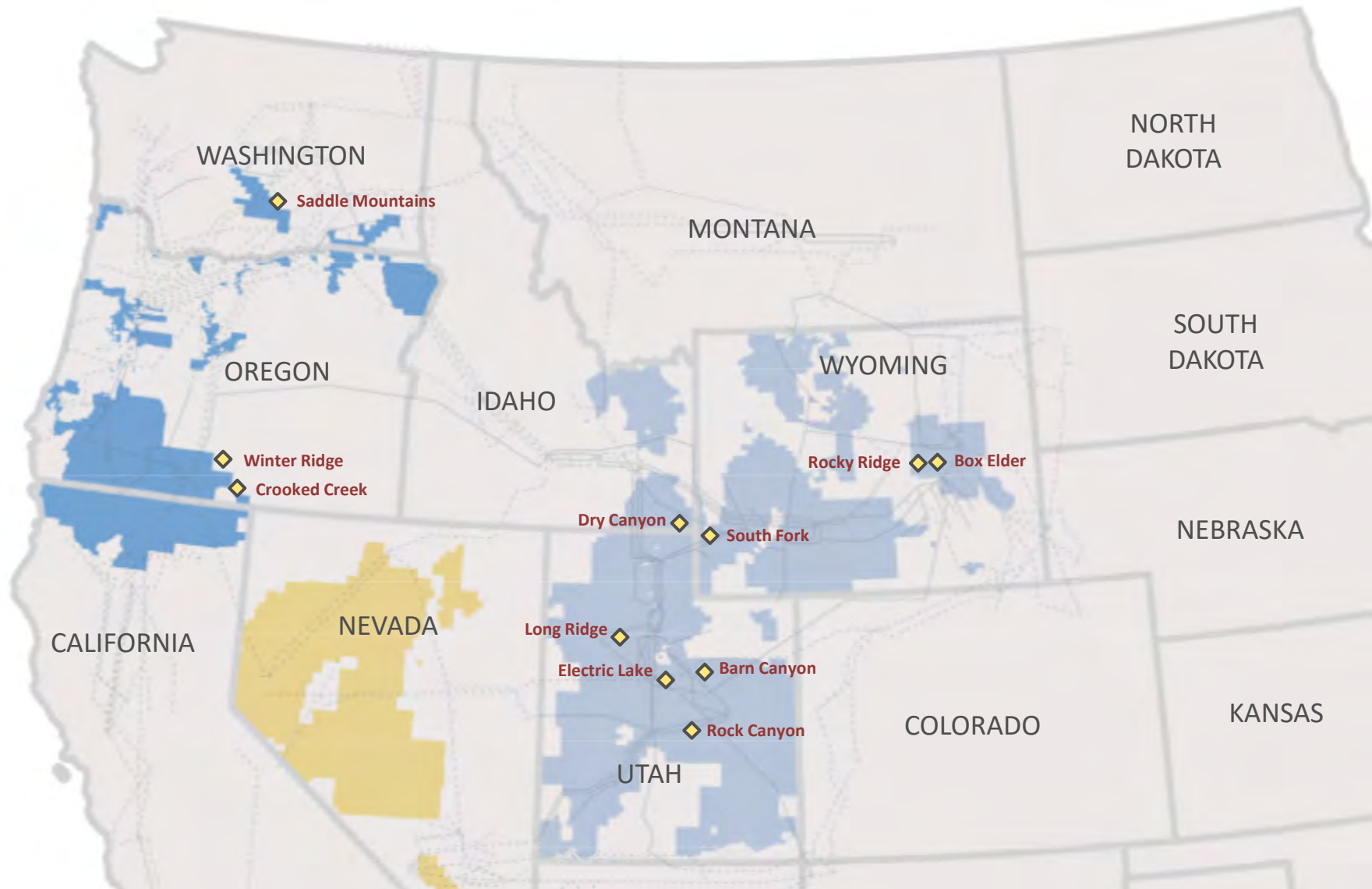


PacifiCorp Requests State and Stakeholder Support



- 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



Rocky Mountain Power | Pacific Power

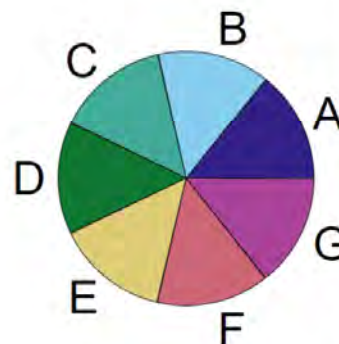
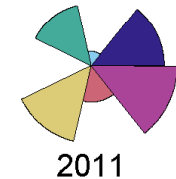
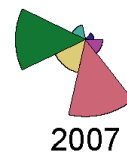
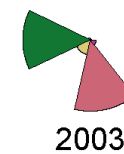
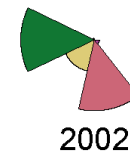
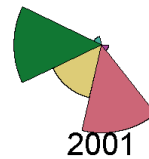
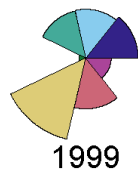
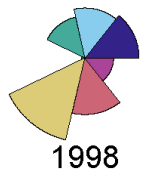
SUMMARY OF WATER YEAR 2021 BEAR LAKE OPERATIONS

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

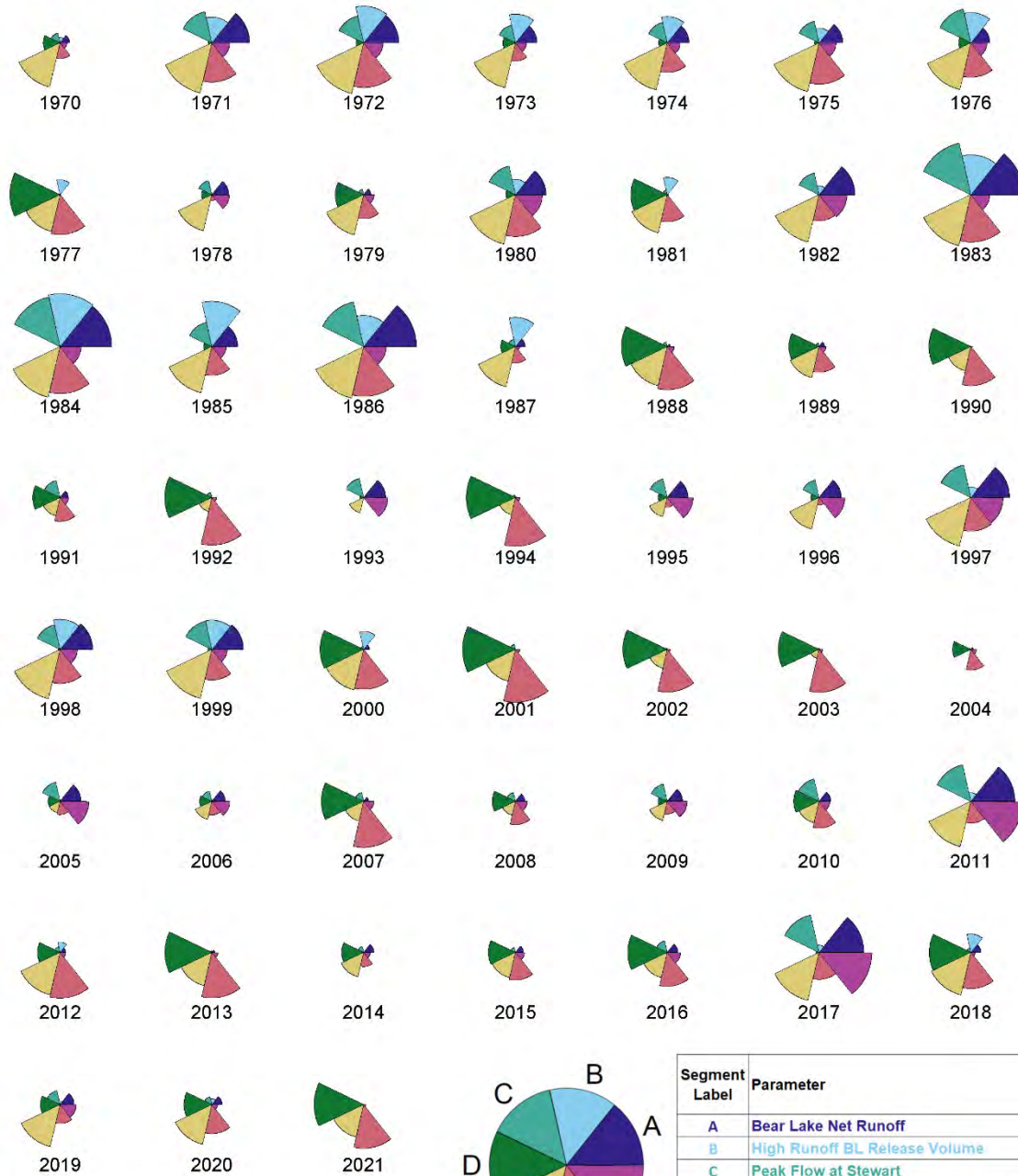
Rank	Year	Net Runoff (thousands of acre- feet)	Rank	Year	Lake Rise (feet)
1	1934	-87	1	1977	0.39
2	1940	-39	2	2000	0.63
3	1961	-29	3	1981	0.66
4	2021	-20	4	1990	0.69
5	1992	-19	5	1961	0.73
6	2002	-19	6	1934	0.82
7	1990	-17	7	1953	0.82
8	1931	-14	8	1940	0.84
9	2001	-11	9	2021	0.87
10	1981	-7	10	1931	0.88

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)



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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

Eve.Davies@pacificorp.com

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
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	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 25th 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.

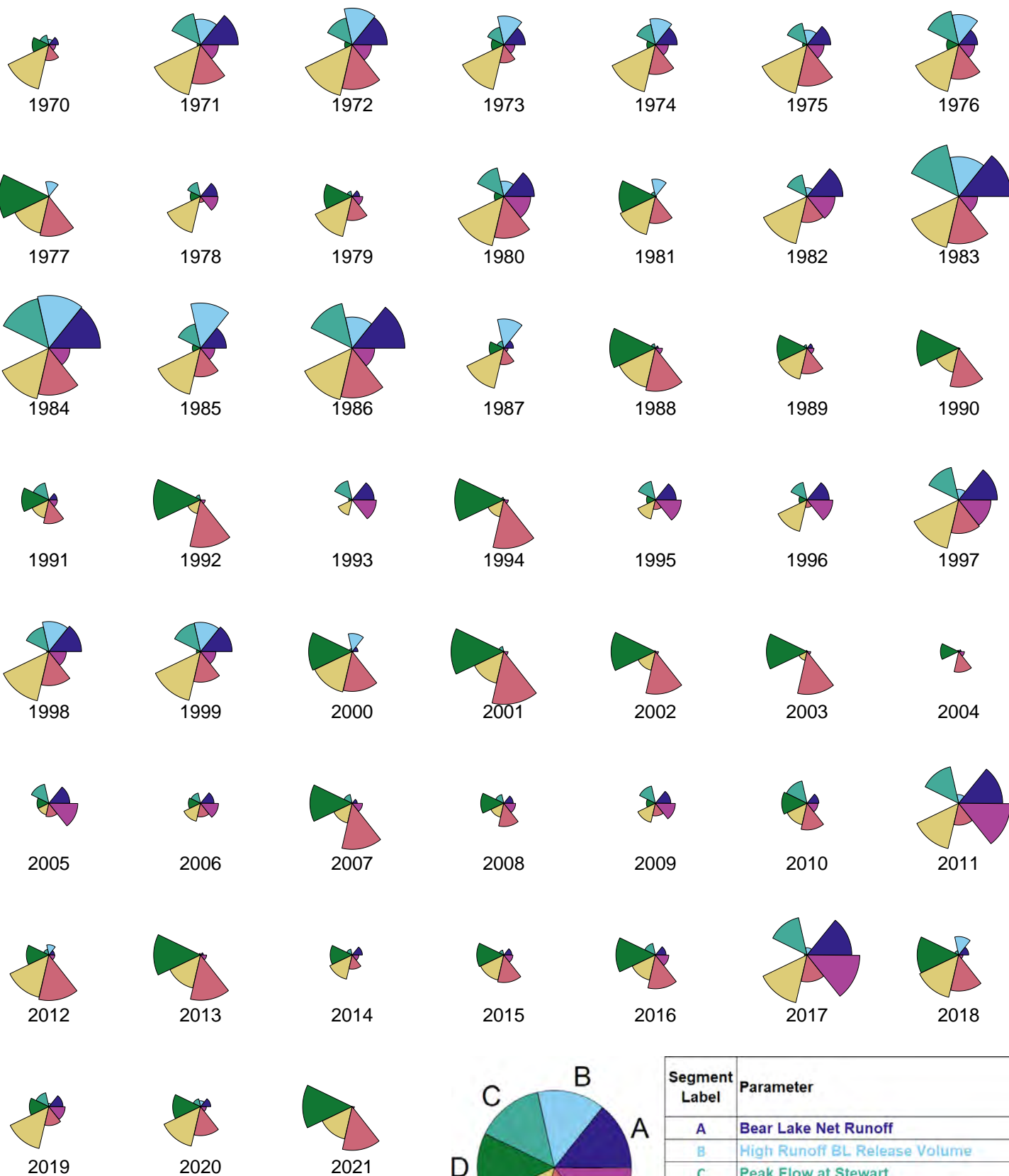
Operational Notes

- *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

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