

ALBENI FALLS DAM AND LAKE PEND OREILLE

Date: 11 FEB 2021

Presenters:

Amanda Collins – Operating Project Manager

Taylor Johnson – Chief, Natural Resources

Jon Moen – Senior Water Manager



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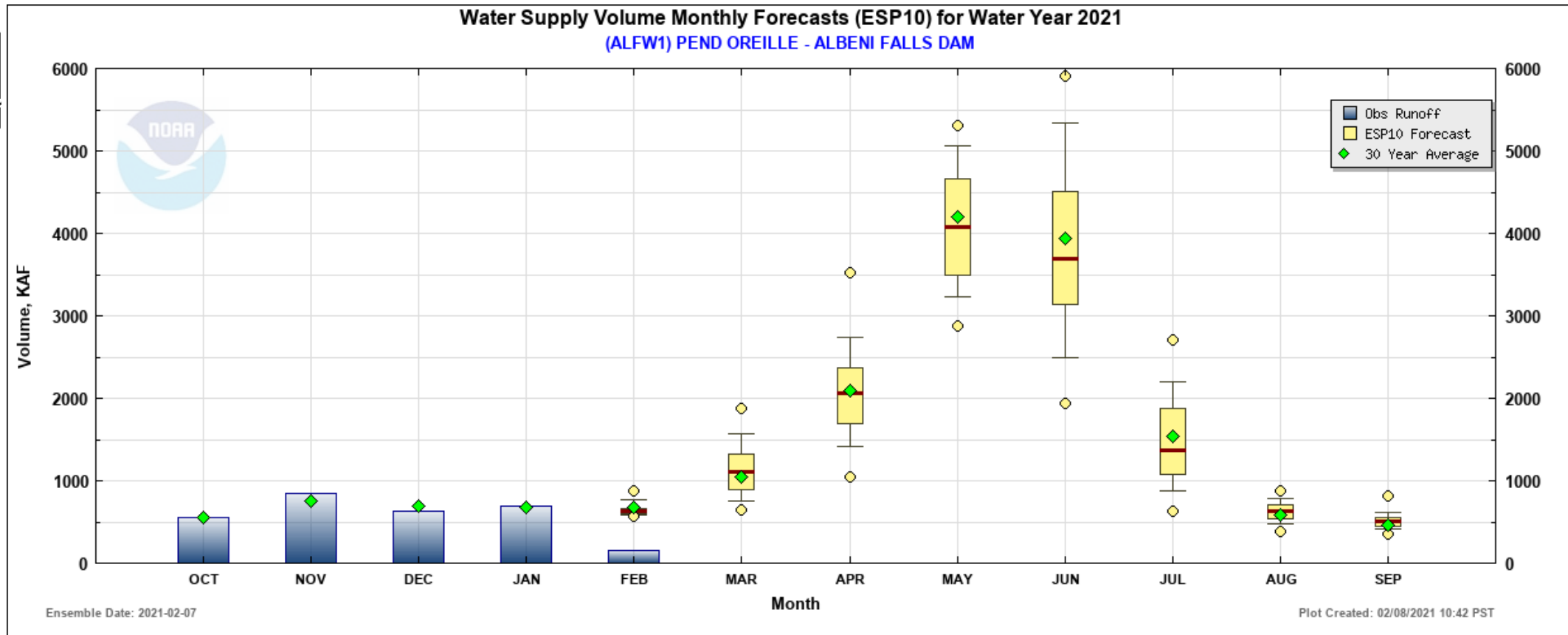


ALBANI FALLS DAM AND LAKE PEND OREILLE OPERATIONS AND LPO FLEXIBLE WINTER POOL OPERATIONS

Jon Moen

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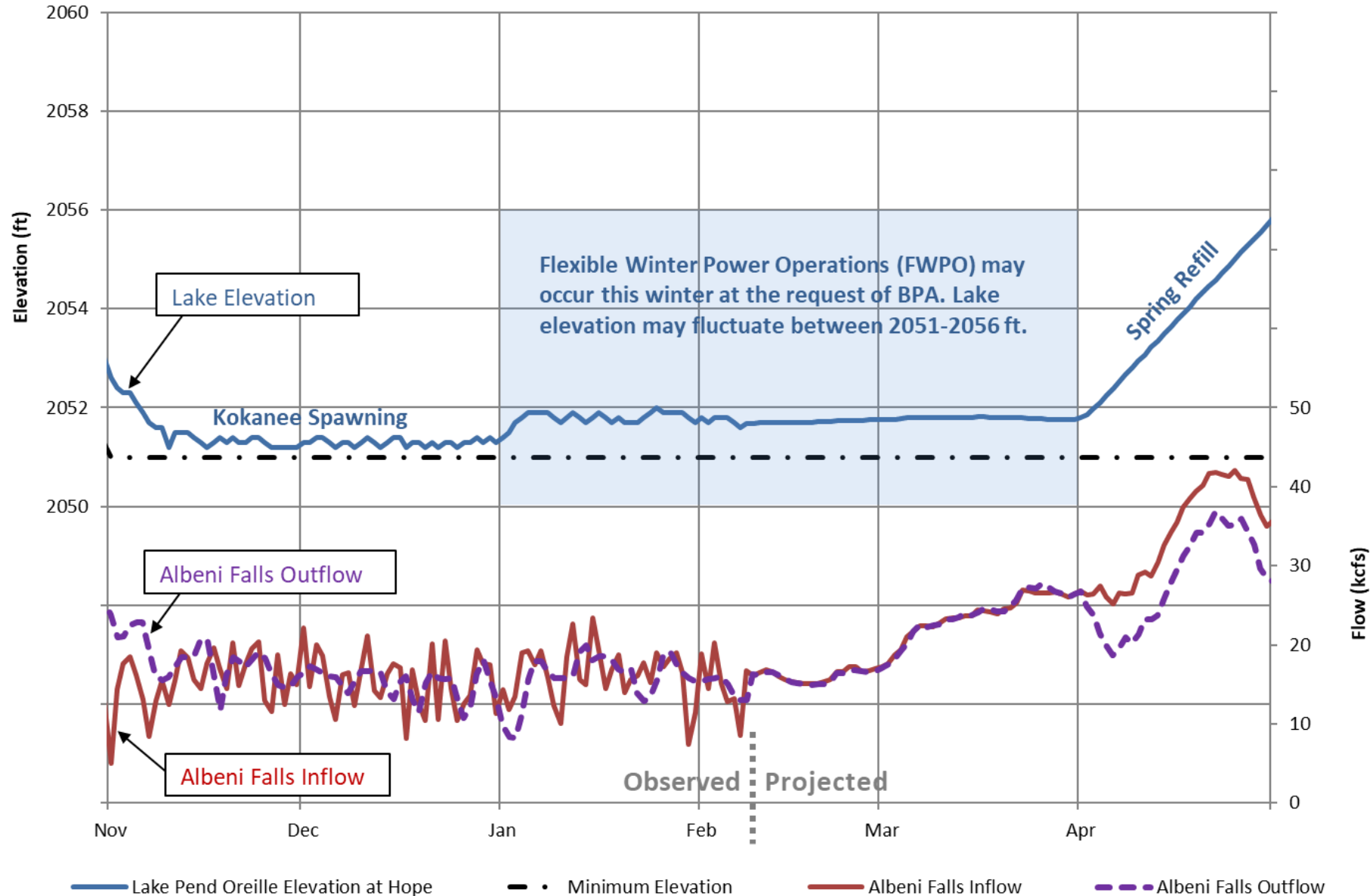


WY 2021 Water Supply Observations and Outlook

- Approximately average flows observed so far this winter.
- Spring and summer flows projected to be average to slightly below average.
- Current forecast for April-July inflow to Albeni Falls Dam is 11.5 million acre-feet (MAF). Average is 11.8 MAF.
- There is still time this winter for conditions to change. We will continue to monitor conditions to assess flood risk and determine spring refill strategy.



Albeni Falls Dam and Lake Pend Oreille Operations November 1 2020- April 30 2021



Winter-Spring Operations

- Flexible Winter Power Operations began Jan 1st.
- Spring refill begins at the start of April
- Rate of refill and timing of reaching summer pool will depend on weather and flow conditions – to be discussed in spring meeting.

ESP projections in plot current as of Thursday 1/21/2021



FLEXIBLE WINTER POWER OPERATIONS



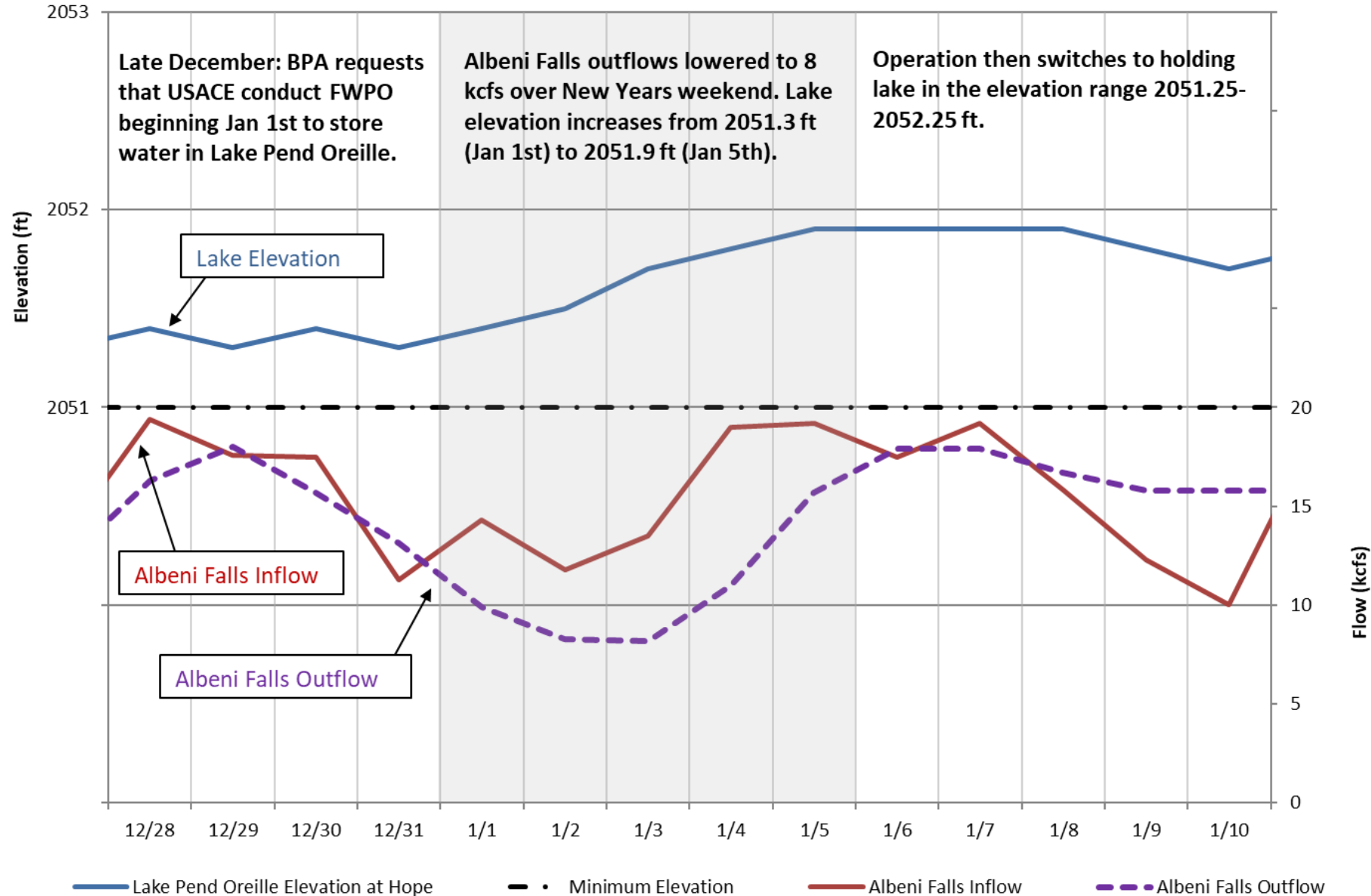
- Flexible Winter Power Operations (FWPO) may occur at the request of BPA from the end of kokanee spawning (typically late December) through the end of March.
- The elevation of Lake Pend Oreille may vary in the 2051-2056 ft range for FWPO. Some operations may utilize less than the full range, such as was seen this January.

General Steps for FWPO:

1. Store water in Lake Pend Oreille when power demand is low relative to amount of flow in the system.
(This was done in early January this year. Additional storage may occur this winter if requested by BPA)
2. Hold the stored water in Lake Pend Oreille so that it is available if/when needed later in the winter.
(This is the current operation at Albeni Falls)
3. Release the water from Lake Pend Oreille to generate additional power when power demand is high.
(This may occur later this winter, but specific timing and plan will depend on conditions)



Albeni Falls Dam and Lake Pend Oreille Operations December 28 2020- January 10 2021

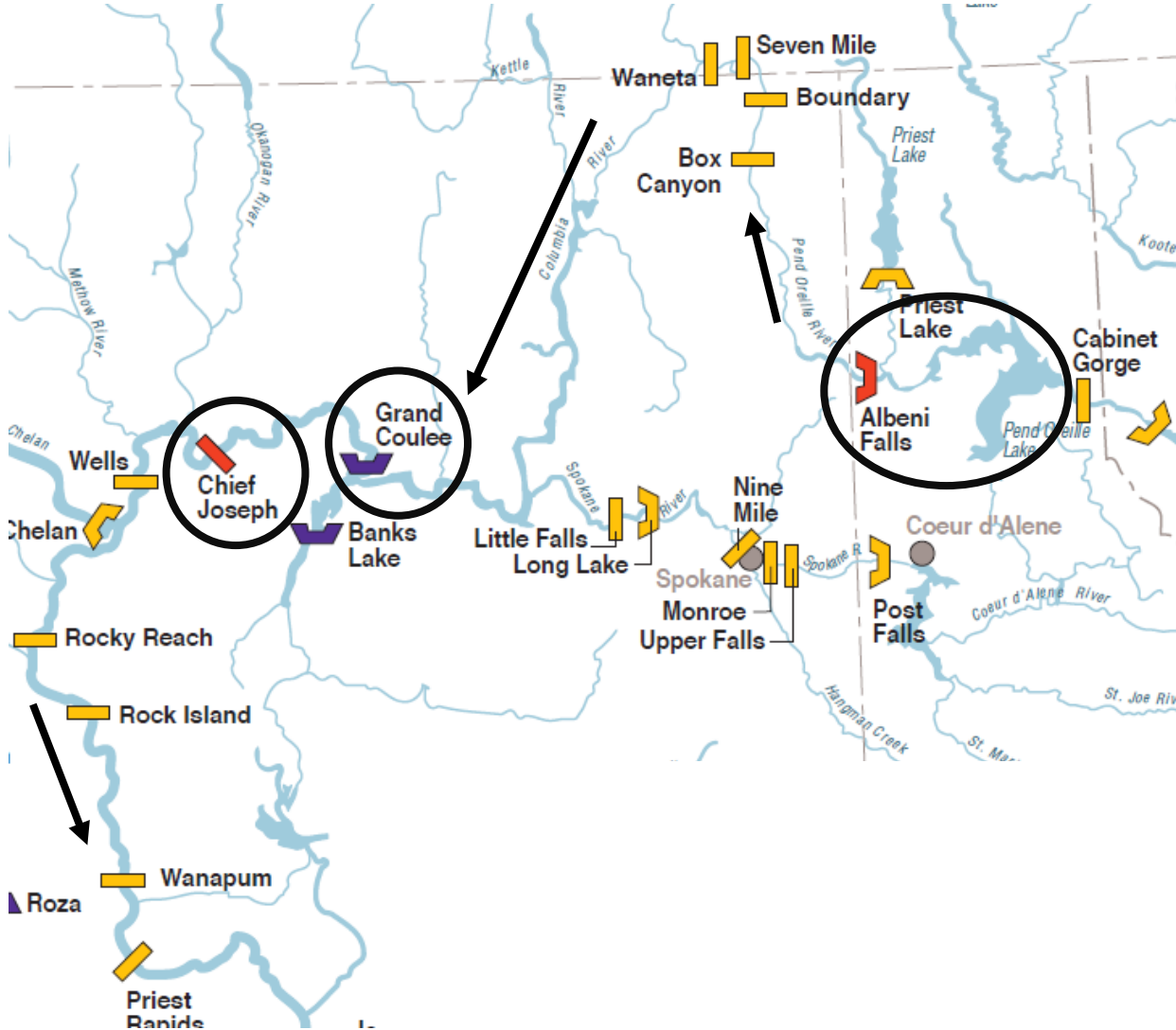


Flexible Winter Power Operations

- Current operation is to hold lake in 2051.25 – 2052.25 ft range.
- Future increase or decreases in lake level within 2051-2056 ft range may occur at request of BPA during January to March period.
- Changes to operation plan will be indicated in “Albeni Falls Dam Update” emails.

Plots shows daily observed data.

FLEXIBLE WINTER POWER OPERATIONS



- Albeni Falls Dam is fairly small compared to others in the Columbia River system, and the power produced by Albeni Falls during FWPO is relatively minor.
- However, the water stored in, and released from, Lake Pend Oreille during FWPO still has significant value for hydropower.
- Why is this? Water released from Albeni Falls flows into the Columbia River and then through larger downstream dams such as Grand Coulee, which produce more power with that water.
- This creates a multiplier effect on the hydropower value of water from Lake Pend Oreille.



Modified ice operations based on 2019 CRREL study

- Study recommended to end the “hinge-crack” operation of fluctuating lake level during cold weather periods. This will mean less of these small-scale lake level fluctuations during cold weather periods.
- Study recommended that operational decisions to manage risk during cold-weather periods will be based on field inspections of ice conditions, rather than set temperature thresholds.
- Findings were incorporated into updated guidance for WY2020, but no significant ice last winter. Expect to utilize updated guidance for WY2021 when ice is present.



QUESTIONS?

For emails regarding release changes and lake level updates email

- UpperColumbiaWM@usace.army.mil
- jonathan.c.moen@usace.army.mil

General Queries call (206) 764-6702

Seattle District water management data website :

<http://www.nwd-wc.usace.army.mil/nws/hh/www/index.html#>

Basins and Projects

- Chehalis River Basin
- Eastern Washington Rivers (Chief Joseph Dam)
- Flathead and Clark Fork Rivers
- Green River Basin (Howard Hanson Dam)
- Kootenai River Basin (Libby Dam)
- Lake Washington (Lake Washington Ship Canals)
- Pend Oreille River Basin (Albion Falls Dam)**
- Puyallup River Basin (Mud Mountain Dam)
- Skagit River Basin
- Water Quality Data

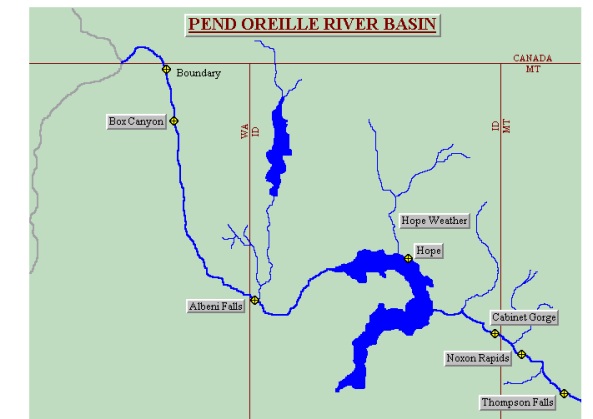
Water Management

The Water Management Section of the Seattle District Corps of Engineers is responsible for monitoring and/or regulating several rivers in the Puget Sound region. This has required the implementation of a complex computer network to collect data from multiple locations and gages every hour. The Water Management Section compiles data from several of its water control projects. The data that are provided here come from those projects and a variety of other sources including:

- National Weather Service (NWS)
- U.S. Geological Survey (USGS)
- U.S. Bureau of Reclamation (USBR)
- Seattle City Light (SCL)
- Tacoma Public Utilities (TPU)
- Puget Sound Energy (PSE)

Basins and Projects

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- Flathead and Clark Fork Rivers
- Green River Basin (Howard Hanson Dam)
- Kootenai River Basin (Libby Dam)
- Lake Washington (Lake Washington Ship Canals)
- Pend Oreille River Basin (Albion Falls Dam)**
 - Albion Falls
 - Box Canyon
 - Cabinet Gorge
 - Hope
 - Hope Weather
 - Noxon
 - Riley Creek
 - Riley Creek TA
 - Windbag Marina
 - Windbag Marina TA
 - Camp Above Cusick
 - Camp Above Cusick TA
 - Thompson Falls
 - Lake Pend Oreille Summary Hydrograph
 - Ice Station Images
 - ESP
- Puyallup River Basin (Mud Mountain Dam)**
- Skagit River Basin**



Stations

Albion Falls	Box Canyon	Cabinet Gorge	Hope
Hope Weather	Noxon	Riley Creek	Riley Creek TA
Windbag Marina	Windbag Marina TA	Thompson Falls	Camp Above Cusick
Camp Above Cusick TA	Summary Hydrograph	Ice Station Images	ESP



ALBENI FALLS DAM PROJECT UPDATES



Amanda M. Collins
Operating Project Manager
Albeni Falls Dam Project

SPILLWAY GATE REPAIR



- FY20 – Two roller chain failures
- FY 20 - Contract awarded SEP 2020 for procurement of replacement roller chains
- 2nd Quarter FY21 - Install replacement chains and make necessary repairs
- FY23 - Major Rehab scheduled for all spillway gates



Clark Fork Driftyard Repair Status

- FY20 – Completed installation of two new boom sections
- FY 20 – 3rd Repair Contract awarded SEP 2020 for procurement of 220ft of new booms for delivery in May 2021.
- FY21 - Install of new booms scheduled to occur during the 2021 Summer Season
- FY21 - contract scheduled to advertise 2nd quarter FY21 (MAR). Installation for this boom section will occur in summer of 2022.



Transformer Replacement

- Replacing sixty-eight-year-old transformers
- Transformer Install Contract – Award AUG 2021
- Onsite work Spring 2022



Fish Passage

Goal:

Provide sub-adult and adult bull trout access to habitats upstream of AFD and re-establish connectivity of bull trout critical habitat above and below AFD.

Objectives:

Provide sub-adult and adult bull trout access to habitats upstream of AFD throughout the 50-year period of analysis.

Re-establish connectivity of bull trout critical habitat above and below AFD during the 50-year period of analysis.



Fish Passage



Feasibility: Completed in 2018

Design: Ongoing

Geotech effort will be a year long effort

Why? Complicated design building into existing dam footprint. One year effort just on the geotechnical investigation for tunneling through the island that connects the powerhouse and spillway

Construction Phase:

Estimated Advertisement period of one year

Estimated 2 years for construction phase

Strong's Island

- Island located 3 miles downstream of Priest River, 1 mile upstream from Albeni Falls Dam.
- Bank stabilization / revetment of western end of island.
- Construction slated for July – Fall of 2021.
- Rock staged at Albeni Cove Recreation Area and transported via barge.
- Construction will result in closure of Albeni Cove for the 2021 season.



NATURAL RESOURCE MANAGEMENT





RECREATION AND ENVIRONMENTAL STEWARDSHIP

- Six Corps Managed Recreation Areas (4 campgrounds / day use and 2 day use only)
- One Visitor Center
- 20 properties outgranted to Idaho Fish and Game for wildlife management
- Campgrounds open May – September. Reservations available through Recreation 1 Stop www.recreation.gov
- Average approximately 450,000 visitors annually



2021 RECREATION

Season Dates: Campsites and Shelters 100% reservable

Albeni Cove closed for 2021 season.

Riley Creek: May 08 – September 18 2021.

Priest River and Springy Point: May 15 – September 11 2021.

Trestle Creek: April 1 – Oct 31 2021.

Reservations available through Recreation 1 Stop www.recreation.gov



2021 RECREATION

Staffing

- Summer Job Opportunities posting 15 Feb. www.usajobs.gov
- New Park Ranger

Albeni Cove

- Campsite Improvements, Volunteer Additions, Backlog Maint.

Priest River

- Volunteers, Spring Soccer, PORPA, Outdoor Shower.

Riley Creek

- Contracted Park Attendants, Water Festival

Springy Point

- Removed vault toilet on The Point, Fix Parking Issues

Visitor Center

- Fix Irrigation, Install New Roof

2021 ENVIRONMENTAL STEWARDSHIP

Hazard Tree Removal Underway

Driftyard Open

Boundary Fencing

Construction at Carr Creek

- Small scale in-house bank stabilization to fix erosion issue.

Level 1 Aquatic Invertebrate Survey

Invasive Species Check Station

- Installing permanent power/water for building next FY.





QUESTIONS

www.nws.usace.army.mil

Facebook at Albeni Falls Dam

208-437-3133 Dam Main Line

208-437-4617 Visitor Center