ALBENI FALLS DAM AND LAKE PEND OREILLE

21 May 2024

Spillway Gate Restrictions

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THANK YOU FOR JOINING US TODAY!

- Open lines of communication.
- Build common understanding of Albeni Falls Dam operations.
- Tour the spillway gates and explain the concerns with their structural stability.
- Talk through our current refill strategy
- Share our communications plan and get your insight on how U.S. Army Corps of Engineers can best communicate to the public, and
- Open dialogue to resolve stakeholders' concerns as we address gate issues.

PROJECT OVERVIEW

- Albeni Falls Dam Project construction was completed in 1955.
- Authorized for the purposes of Flood Risk Management, Hydropower, Recreation, Environmental Stewardship and Navigation.
- Project has 10 spillway gates, 1 spare gate and 3 Hydroelectric generating units used to manage waterflow to reduce risk of flooding.
- Per USACE Water Control Plan we regulate Lake Pend Oreille during the summer season between 2062 – 2062.5 feet through late September for safe navigation and water recreation.

RESTRICTED OPERATIONS

- September 2022: USACE awards contract to rehabilitate spillway gates as part of multi-year phased effort.
- May 2023: Gate 3 is removed from the spillway for transport to rehab facility; spare gate put in the Gate 3 slot.
- April 2024: When discovered, USACE Weld Center of Expertise reported base metal flaws in Gate 3 to Operating Project Manager.
- May 2024: Operations restricted spillway operations by limiting gate movement.

WHAT EXACTLY IS WRONG WITH THE GATE?

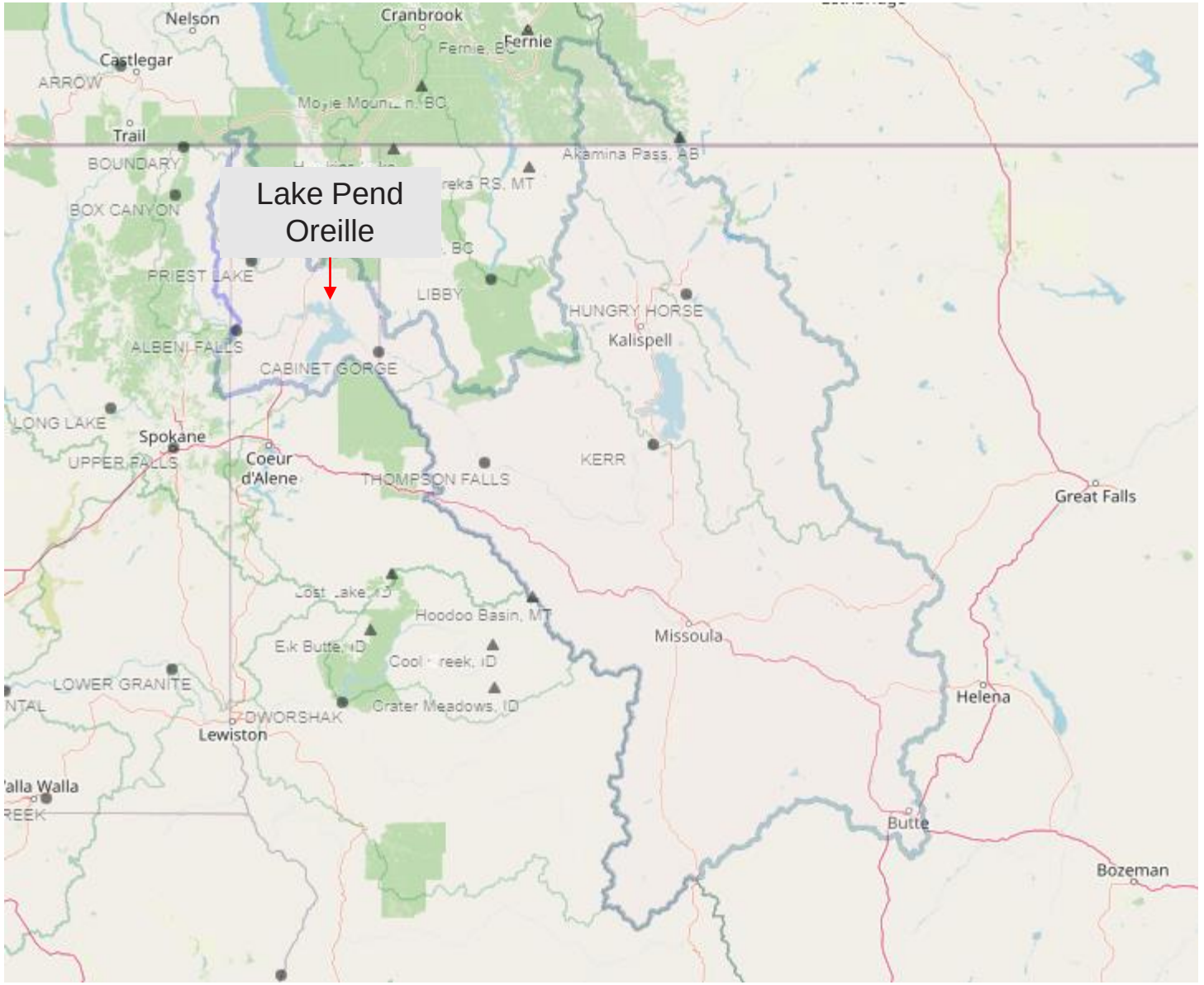
- During the rehabilitation of Gate 3, numerous rolling flaws, delaminations*, and other base metal defects were recently identified in the fracture critical girders of the gate which could result in failure of the gate.

- Fracture is an instantaneous-load brittle failure that has no signs of deflection or warning of distress. The inability to verify the size, location, and presence of all possible defects in the fracture-critical members with known defects results in a structure not fit for service.

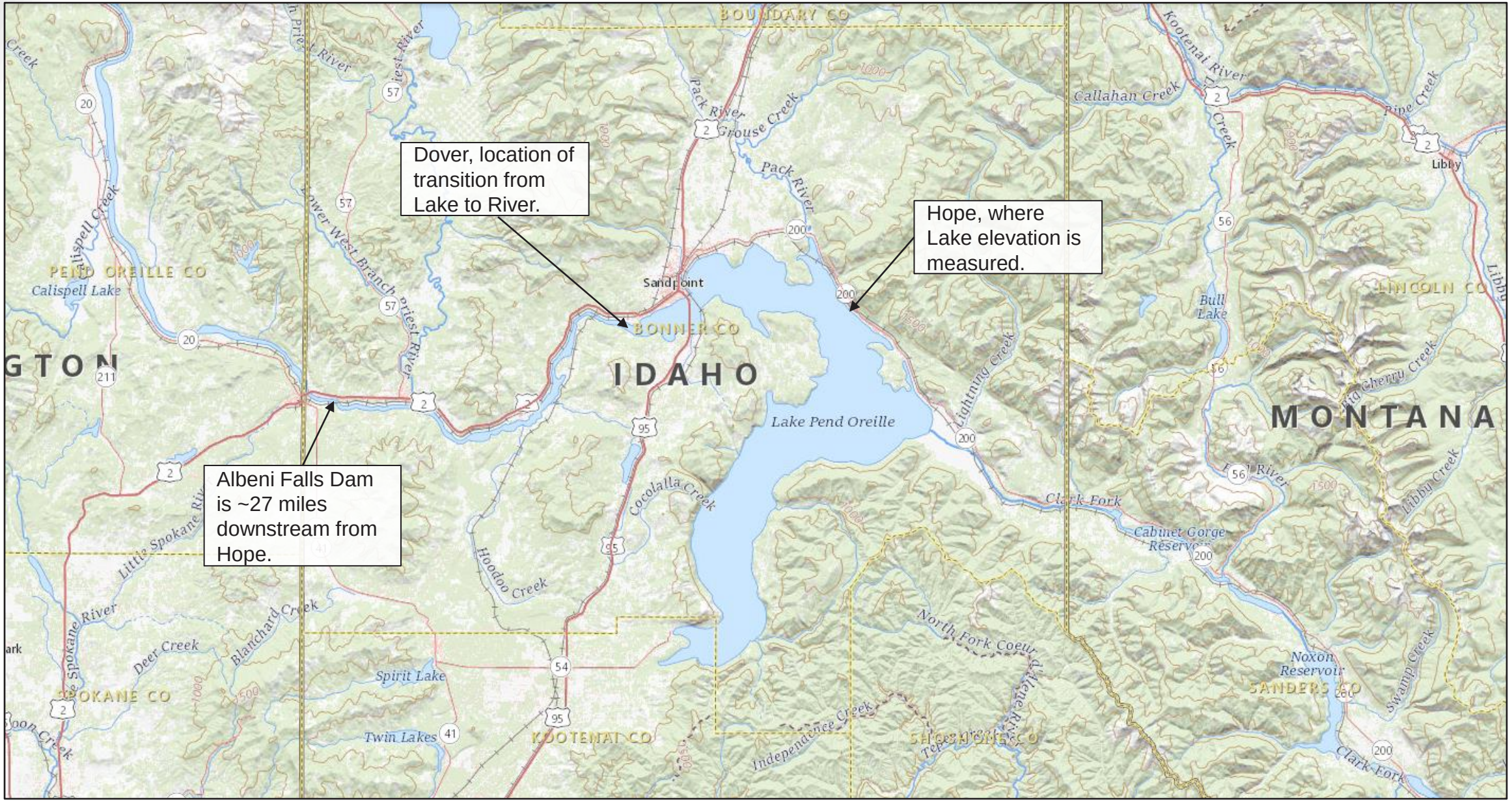
- As all spillway gates at Albeni falls dam were fabricated in the 1950s at the same time and with the same steel type (32 ksi Fed Spec QQ-S-741 or A7 steels), it is likely that other gates at the project have similar base metal flaws/defects that could result in collapse of a gate.

*Steel from the 1950's utilized recycled steel and was not fully killed. Fully killing the steel involves adding elements such as aluminum to the steel to remove oxygen that is trapped between rolled laminations. A failure to remove this oxygen can result in voids within the laminations of the steel. When these voids come to the surface of the steel, either through cutting the steel for welding or through the application of stress, these voids become known as delaminations.

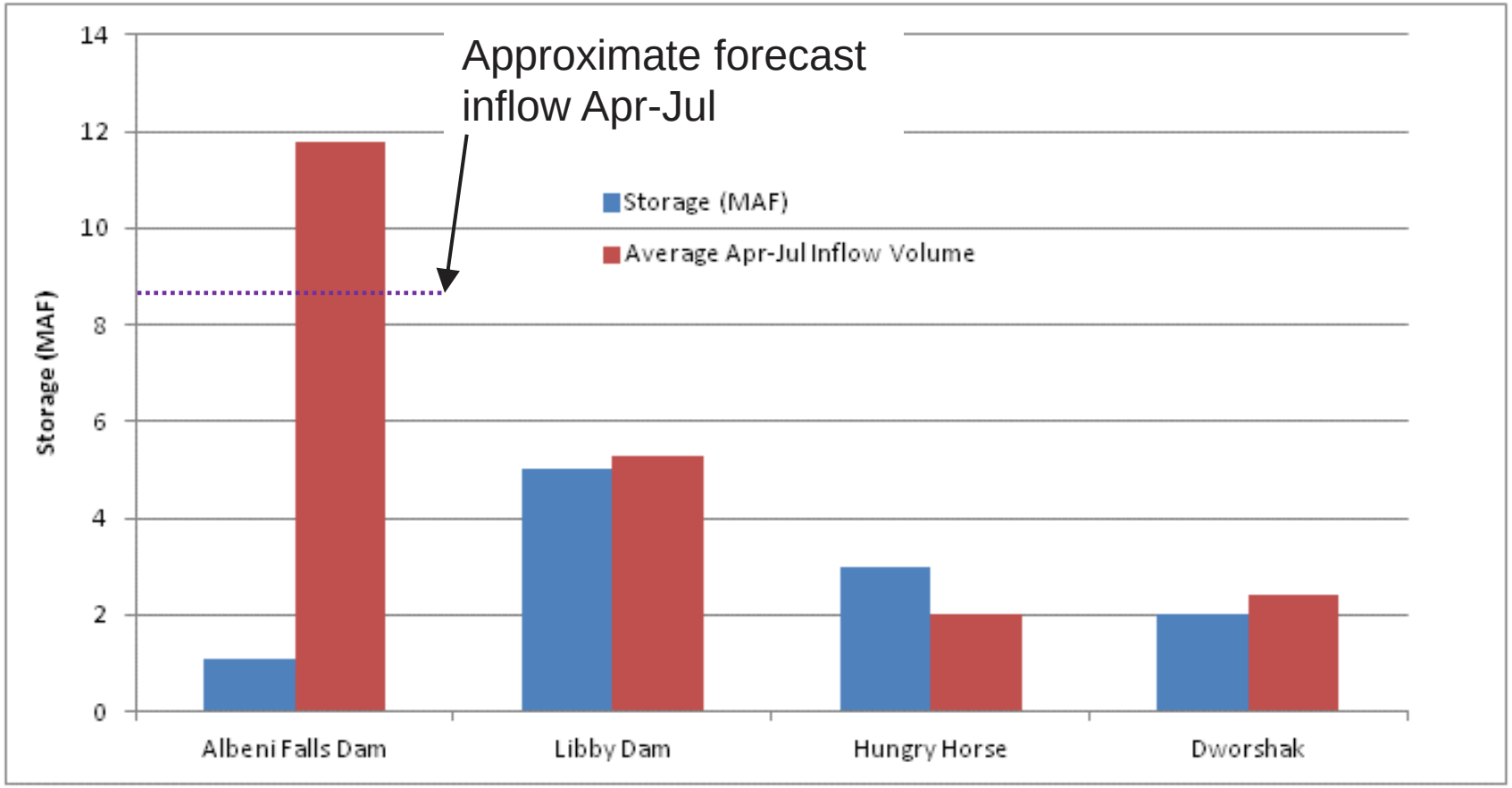
PEND OREILLE BASIN



LAKE PEND OREILLE & ALBENI FALLS DAM



COLUMBIA RIVER PROJECTS STORAGE VS SPRING RUNOFF



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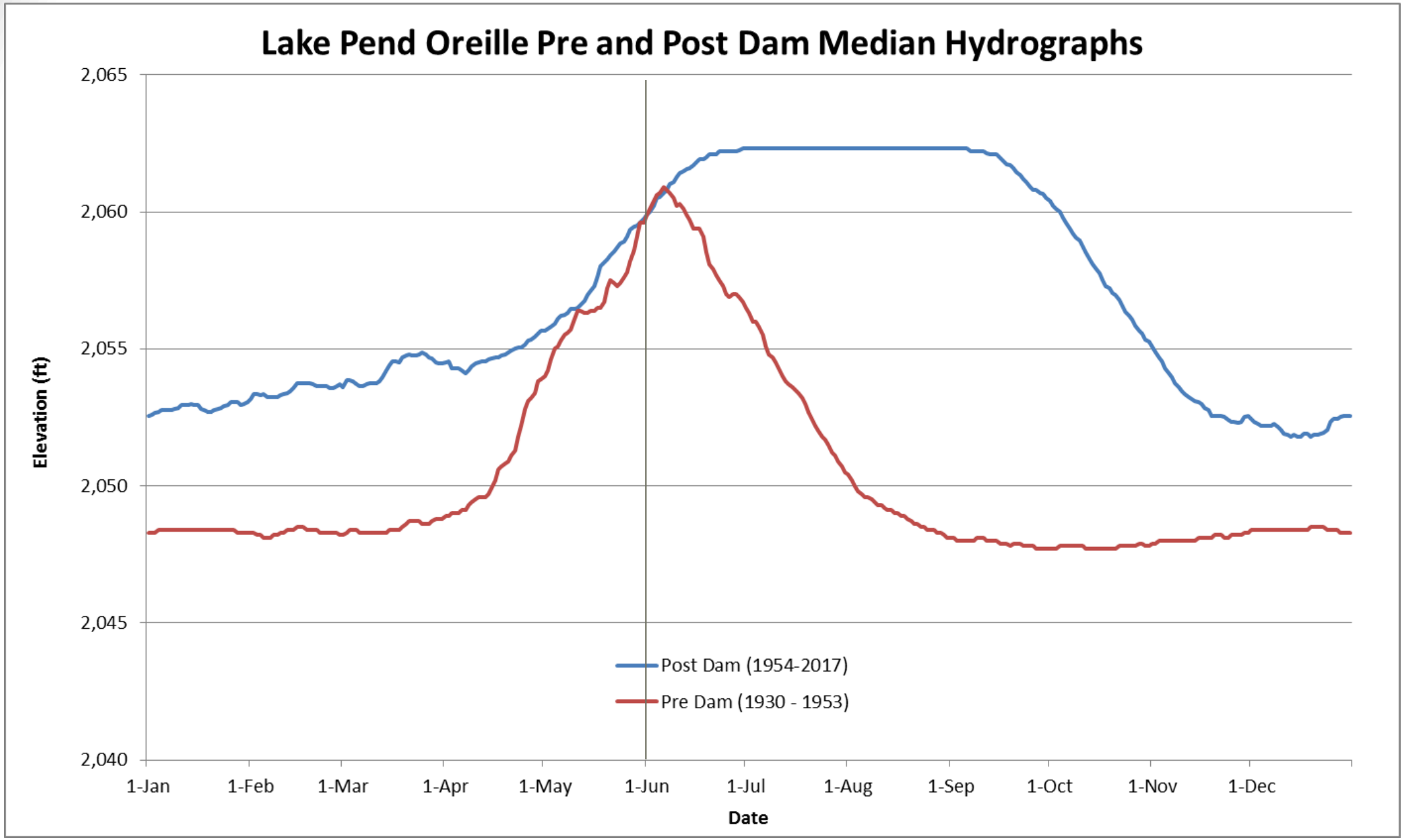
Lake Pend Oreille Pre and Post Dam Median Hydrographs
2,065
2,060
2,055
2,050
2,045
2,040
Elevation (ft)
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
1-Oct
1-Nov
1-Dec
Date
Post Dam (1954-2017)
Pre Dam (1930 - 1953)

KEY RESTRICTIONS DURING REFILL MOVING FORWARD

- When possible, only have gates moved to fully open or fully closed.
- Only move one gate at a time (as opposed to spreading flow across multiple gates).
- Only move gates when necessary to ensure orderly refill of the lake (and manage flood risk)
- Allowing lake to a regulated level up to 2063.5 feet (at Hope, ID) .
- During refill and during the summer, operate **forebay** to not exceed 2062.3, preferably 2062.0 ft. This might require elevation summer band, measured at Hope, ID to be shifted downward by a quarter to half a foot.
- *Current goal for Memorial Day and 4th of July*
  - *2057 ft. for Memorial Day and 2062 ft. by June 30 *subject to hydrologic conditions*

COMMUNICATION STRATEGY

- Water management updates are sent as conditions change to email distribution list
- Communicate as additional information becomes available, via news releases to local news media, social media and public website.
- Currently planning public information meetings for the end of May.
  - Upstream – Ponderay Event Center
  - Downstream – Usk at the Camas Center

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QUESTIONS?

For emails regarding release changes and lake level updates email

- UpperColumbiaWM@usace.army.mil
- Leon.Basdekas@usace.army.mil

General Questions call (206) 764-6702

Seattle District water management data website :
http://www.nwd-wc.usace.army.mil/nws/hh/www/index.html#