

LIBBY DAM WATER MANAGEMENT MARCH 2021 KVRI UPDATE

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Upper Columbia River

Seattle District
15 March 2021



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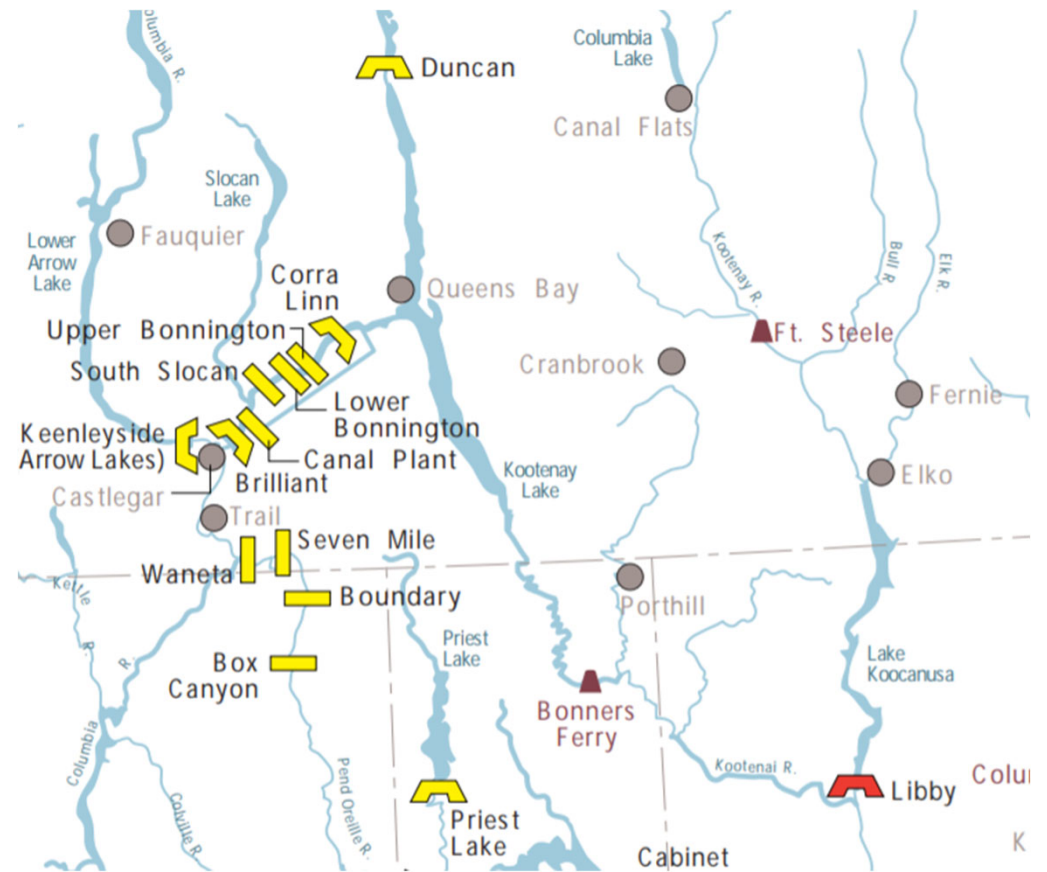


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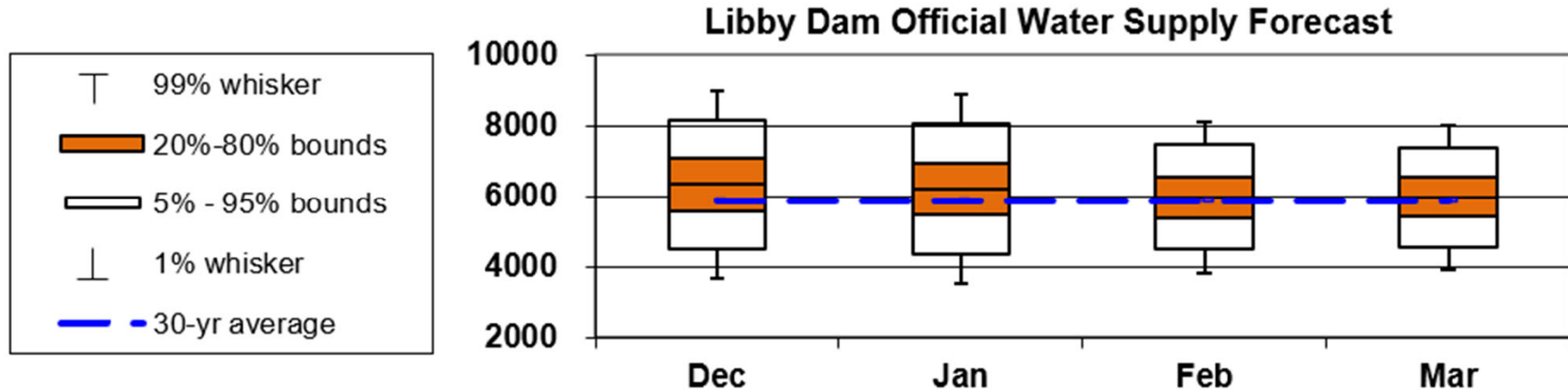
PRESENTATION TOPICS

- Water supply and snowpack
- Libby water management overview
- Changes to Libby operations due to CRSO EIS (Columbia River System Operations Environmental Impact Statement)
- Observed Libby operations so far this winter
- Forecast operations this spring and summer





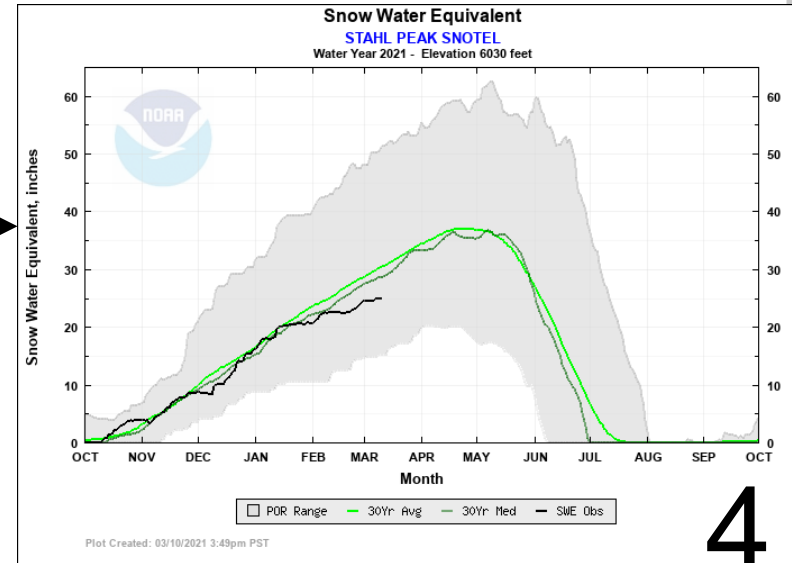
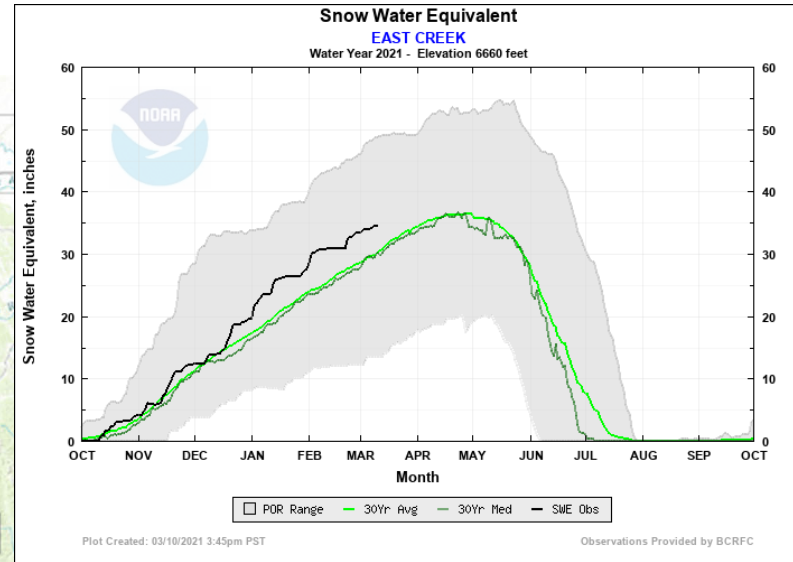
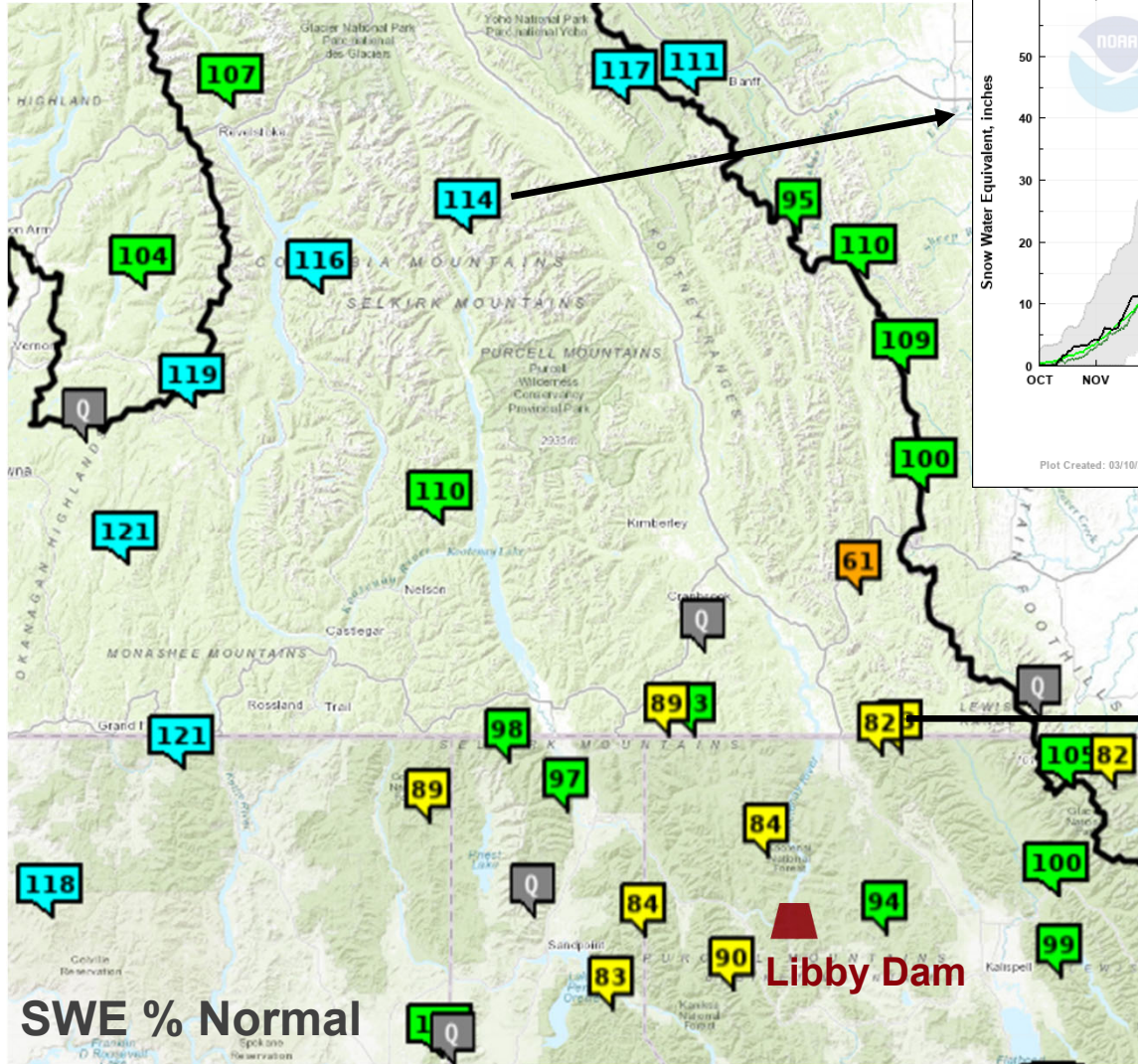
WATER SUPPLY AND SNOWPACK



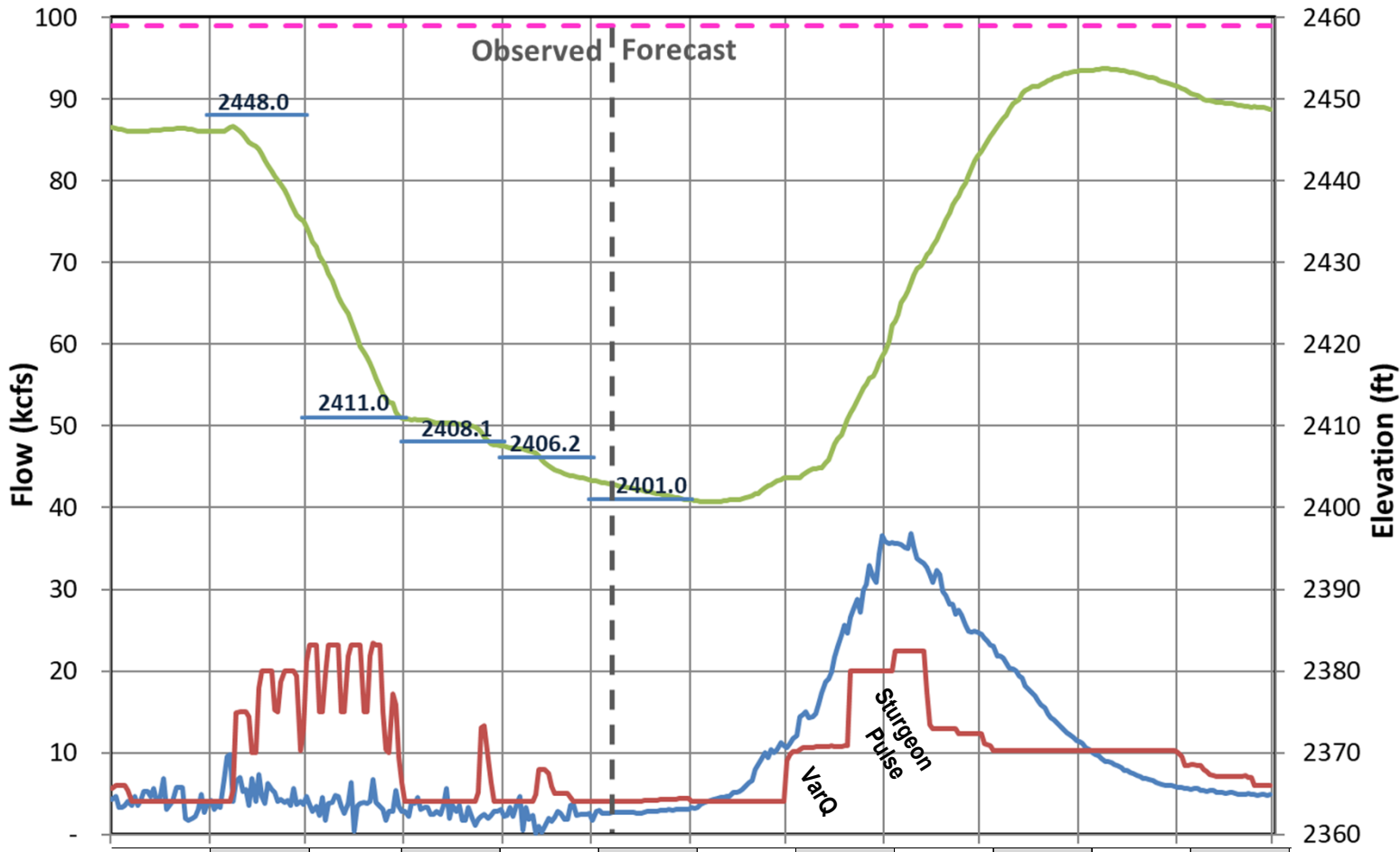
- Snowpack is above average in the northern portions of the Kootenai Basin, and below average in the southern portions of the basin.
- The most recent (March) official water supply forecast for Apr-Aug 2021 Libby Dam inflow is 5.98 MAF. This means an approximately average year for water supply and flood risk.
- There is still time this winter for conditions to change, and actual spring-summer inflows are also affected by spring-summer precipitation and temperature.



SNOWPACK - MARCH 9

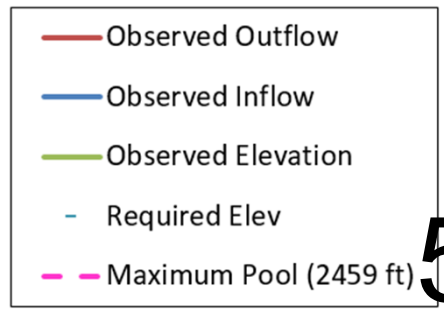


Koocanusa Reservoir Operations Water Year 2021



Libby Ops Overview

- Winter drawdown to evacuate space for spring runoff.
- Spring refill based on VarQ (Variable Flow) procedure
- Sturgeon Pulse
- Summer operation to complete refill and then augment late summer flows



Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
FRM DRAFT			MINIMUM FLOW OR FRM			OPERATE TO VARQ FRM					
	END OF DECEMBER VARIABLE DRAFT LIMITS					OPERATE TO STURGEON AND SALMON FLOW OBJ.		OPERATE TO SALMON FLOW OBJECTIVES			
OPERATE TO BULL TROUT FLOW OBJECTIVES											



COLUMBIA RIVER SYSTEMS OPERATIONS EIS



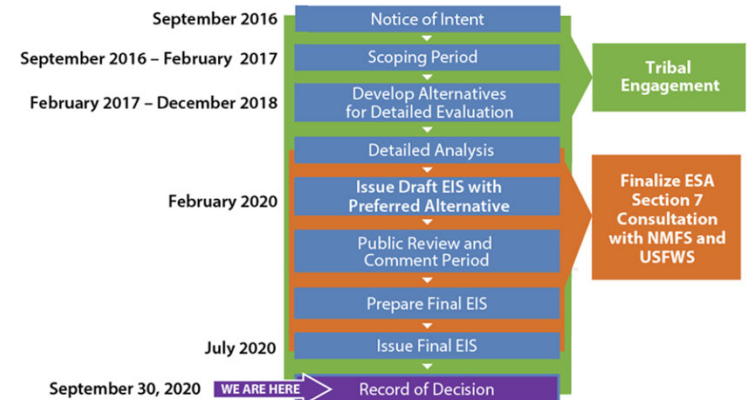
To view Final EIS, Record of Decision, and for more information about CRSO, visit: <http://crso.info/>

The CRSO EIS includes several adjustments to Libby operations. Libby Dam is following the new CRSO Operations this year.



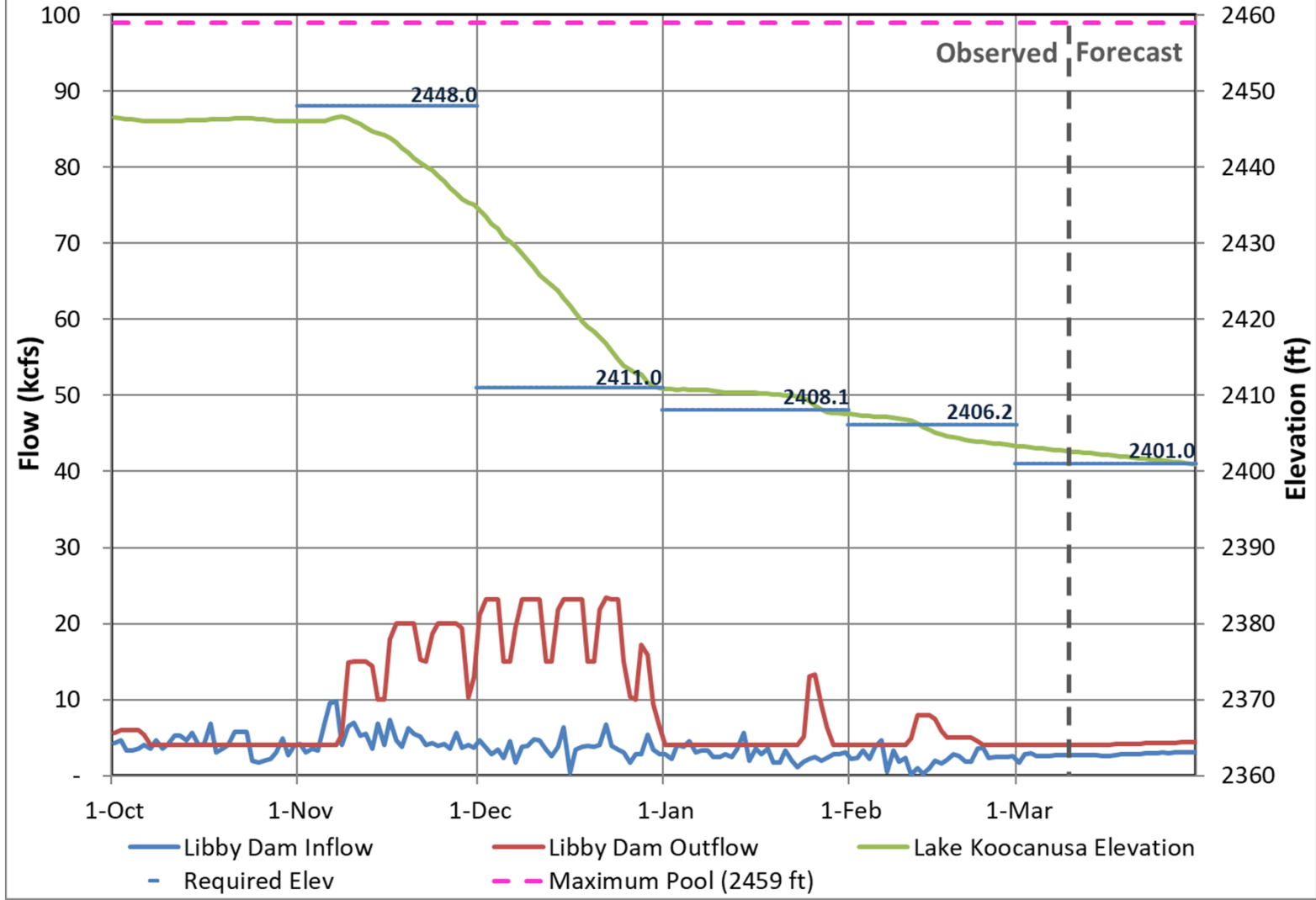
- Winter: Adjusted winter drawdown targets
 - Deeper draft in low to medium water supply forecast years
 - No change to targets in large water supply forecast years
- Spring/summer: Changes to VarQ Refill
 - Changes to VarQ calculation method to determine Libby outflows prior to sturgeon pulse
 - No change to Sturgeon Pulse
- Summer: Sliding scale for end of September
 - Target elevation of 2439 to 2454 ft at end of Sept. depending on water supply forecast
 - Still 2449 ft end of Sept in an average year

Columbia River System Operations EIS Process





Koocanusa Reservoir Operations Water Year 2021



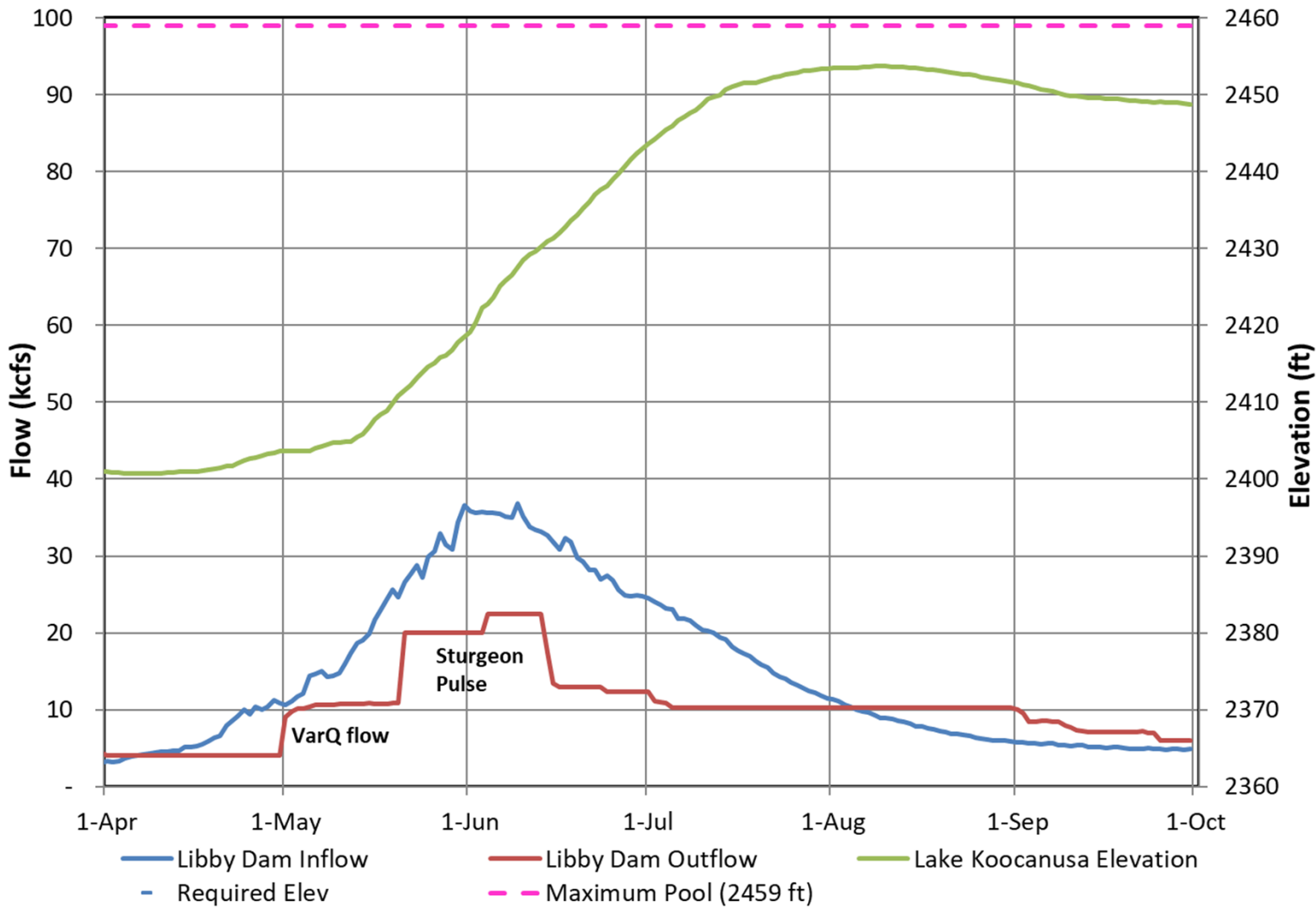
- CRSO Operations:
 Winter drawdown has followed new CRSO-based targets.

- Special Operation:
 Increased outflows in February during cold weather to support hatchery water intake.

- Current Status:
 On track to meet end of March elevation target, as set by the current 5.98 MAF water supply forecast.



Koocanusa Reservoir Operations Water Year 2021



- Refill Operations:
CRSO adjustments to VarQ refill procedure. Refill operations and VarQ flows to begin by May 1st.

- Environmental Flows:
Sturgeon Pulse volume and summer Bull Trout Minimum Flow unchanged by CRSO.

- Late Summer Ops:
Target reaching seasonal maximum pool in late July or early Aug, then draft to augment late summer flows based on adjusted Sept. targets.



QUESTIONS?

For emails regarding release changes and lake level updates email

- UpperColumbiaWM@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#>

Reservoir Control Center SEATTLE DISTRICT
US Army Corps of Engineers Water Management Section

HOME ABOUT MEDIA AND CONTACTS LINKS GLOSSARY

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 (Hud 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)
- Eugene Sound Energy(PSE)

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 - Bonners Ferry
 - Moyie River Eastport
 - Below Moyie Nr Bonners
 - Fisher
 - Fort Steele
 - Leonia
 - Libby
 - Libby Tailwater
 - Nelson
 - Queen's Bay
 - Troy
 - Libby Water Temp Profiles
 - Lake Koocanusa Summary Hydrograph ESP
- Lake Washington (Lake Washington Ship Canals)
- Pend Oreille River Basin (Albion Falls Dam)
- Puyallup River Basin (Hud Mountain Dam)

Stations

- Bonners Ferry
- Below Moyie Nr Bonners
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