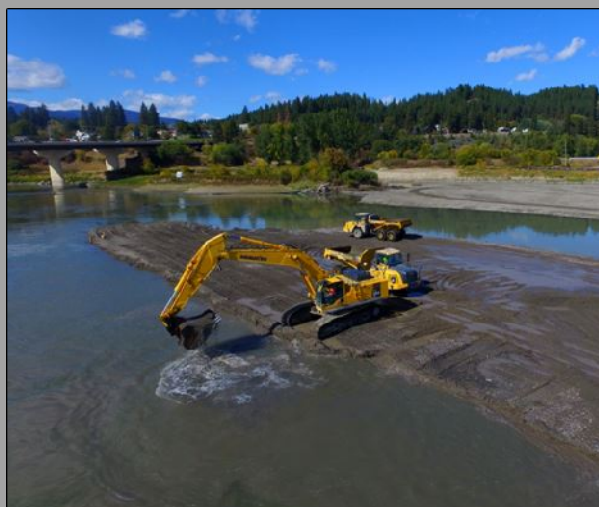


LIBBY DAM STURGEON AND SUMMER OPERATIONS

May 9th, 2018
TMT Meeting



Aerial view of construction of the Kootenai River Habitat Restoration Program's Bonners Ferry Islands project, taken September 2015. Part of this project involves dredging three deep pools in the river, with dredged material used to help build the islands.

(Photo Courtesy Kootenai Tribe of Idaho)



"The views, opinions and findings contained in this report are those of the authors(s) and should not be construed as an official Department of the Army position, policy or decision, unless so designated by other official documentation."

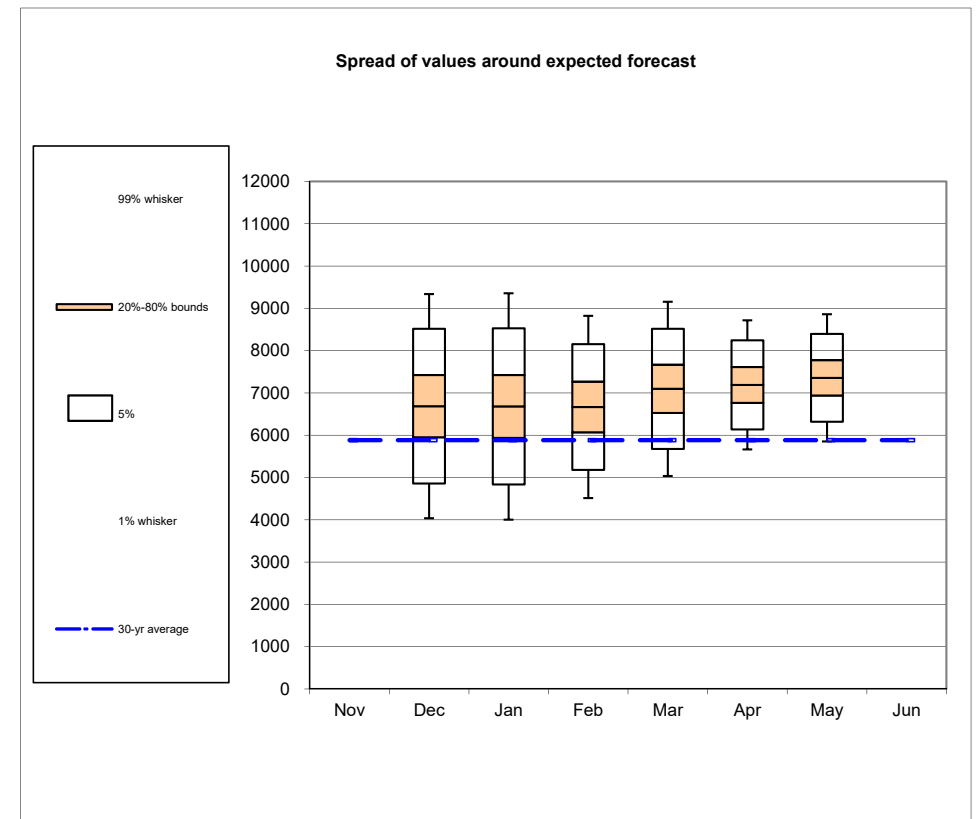


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MAY 1ST WATER SUPPLY FORECAST AND BIOP OBJECTIVES

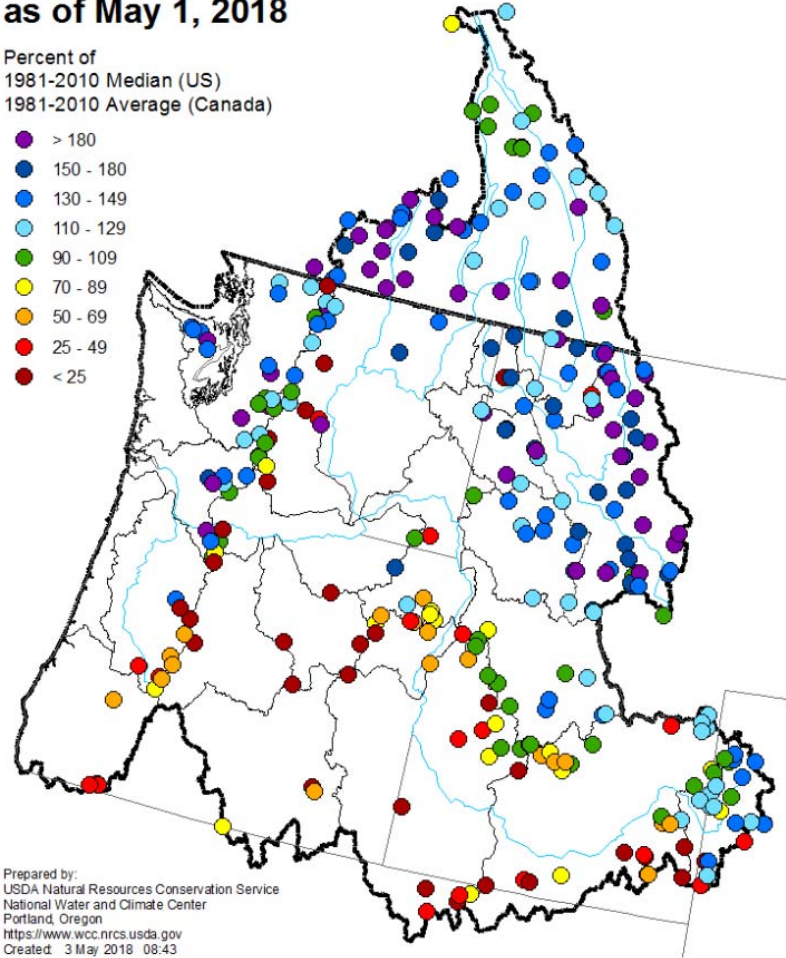
- The April-August inflow forecast for Libby Dam is 7.36 million acre-feet (MAF) (125% of average).
 - Sturgeon Volume is 1.2 MAF.
 - Bull trout minimum flows after the Sturgeon Pulse through Aug 31 is 9 kcfs.
 - Current VarQ Flow 9,200 cfs, including storage adjustment to release residual storage.
- Water supply forecast issued on May 3 for The Dalles is 106.8 MAF (122% of normal).
 - Libby flow augmentation draft to 10 ft from full (2449 ft) end of September.



Columbia River and Pacific Coastal Basins Mountain Snowpack as of May 1, 2018

Percent of
1981-2010 Median (US)
1981-2010 Average (Canada)

- > 180
- 150 - 180
- 130 - 149
- 110 - 129
- 90 - 109
- 70 - 89
- 50 - 69
- 25 - 49
- < 25



Kootenai Basin at
147% of average SWE
May 1st

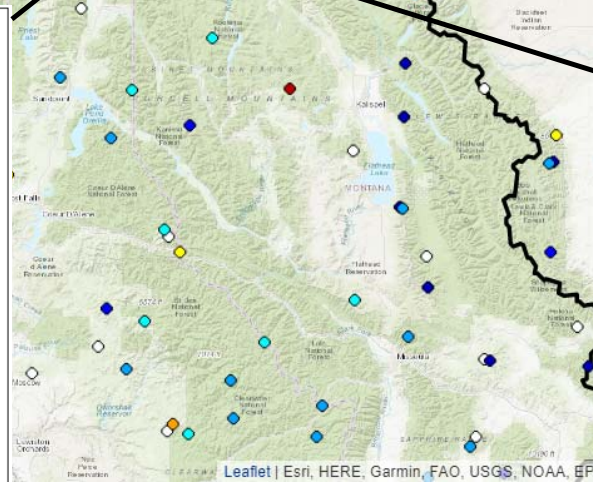
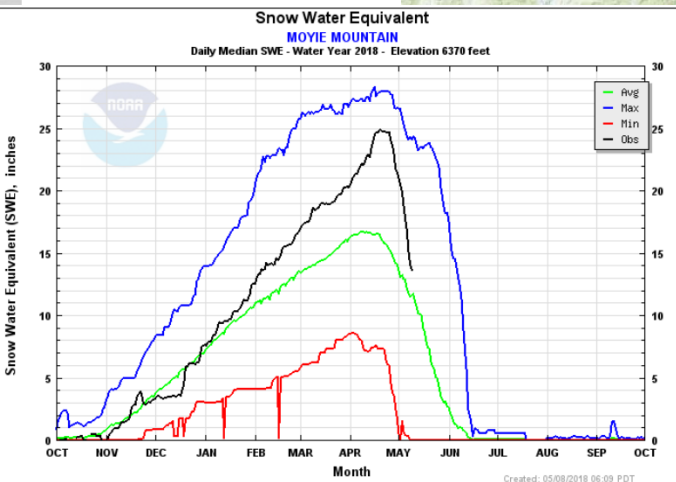
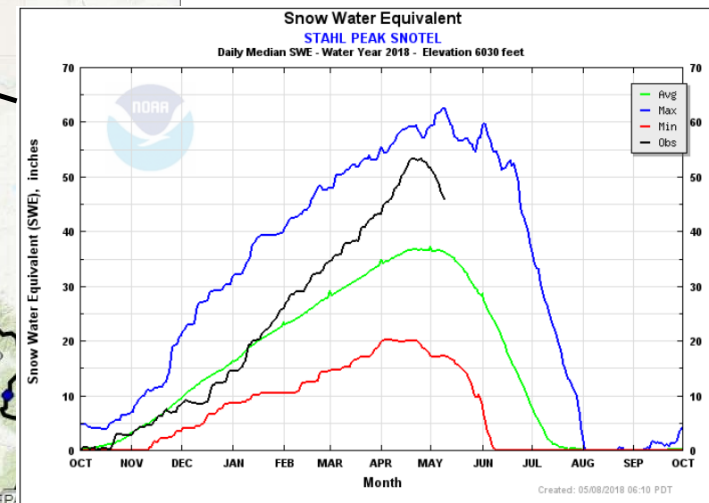
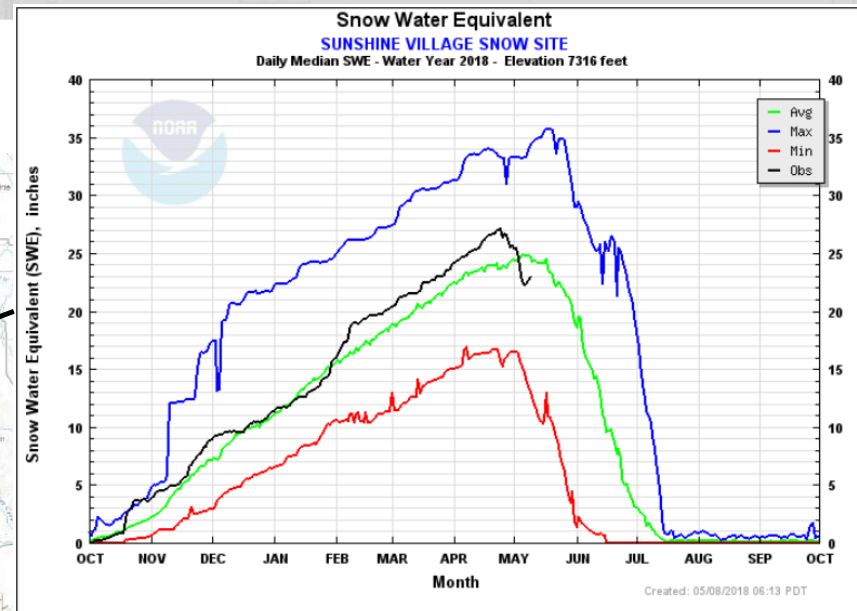
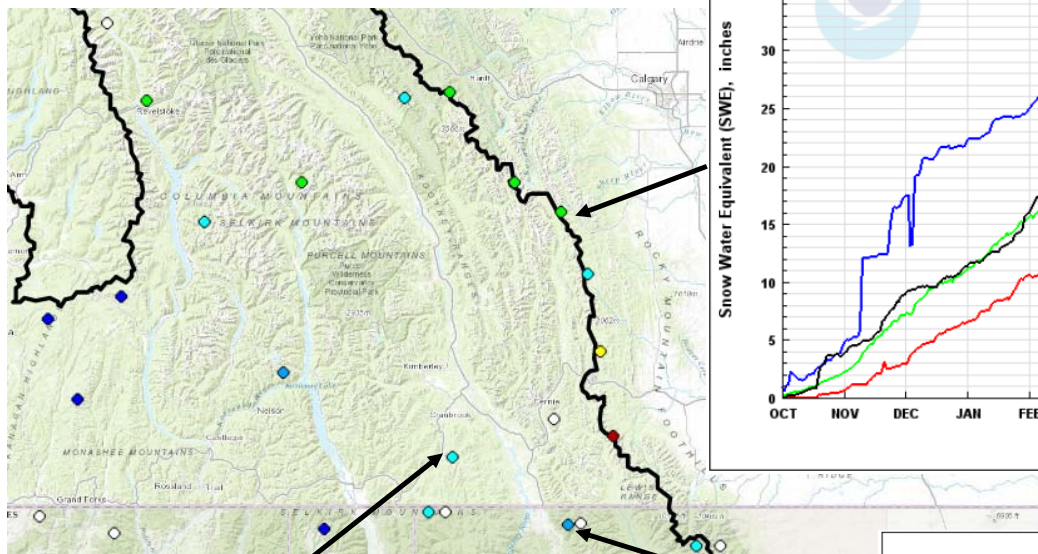
Prepared by:
USDA Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
<https://www.wcc.nrcs.usda.gov>
Created: 3 May 2018 08:43



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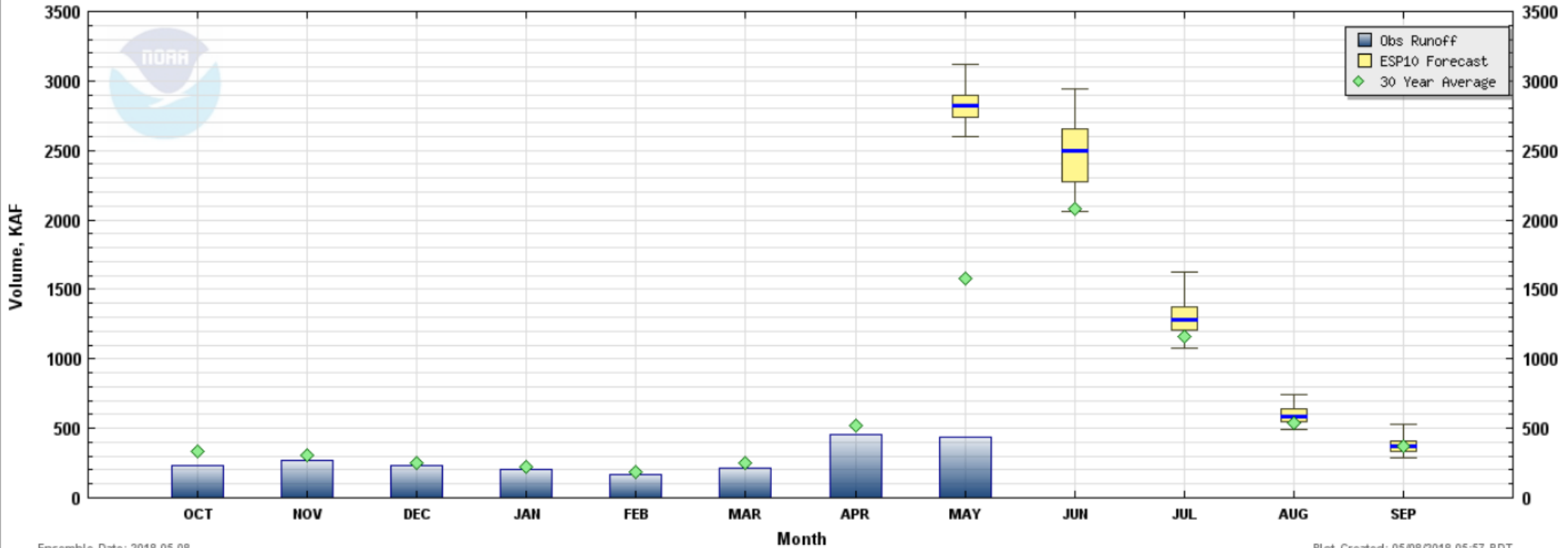
SNOWMELT SO FAR



Water Supply Volume Monthly Forecasts (ESP10) for Water Year 2018

(LYDM8) KOOTENAI - LIBBY DAM

Max, Min, 90%, 10%, and Median



Ensemble Date: 2018-05-08

Plot Created: 05/08/2018 05:57 PDT



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OPERATIONS TO SUPPORT KTOI REQUEST

- Operate to 6 kcfs in Sept
- Need reservoir to 2449 ft end of August
 - Sept Ave inflow ~6 kcfs
- Look to refill Libby Dam late July to Early August



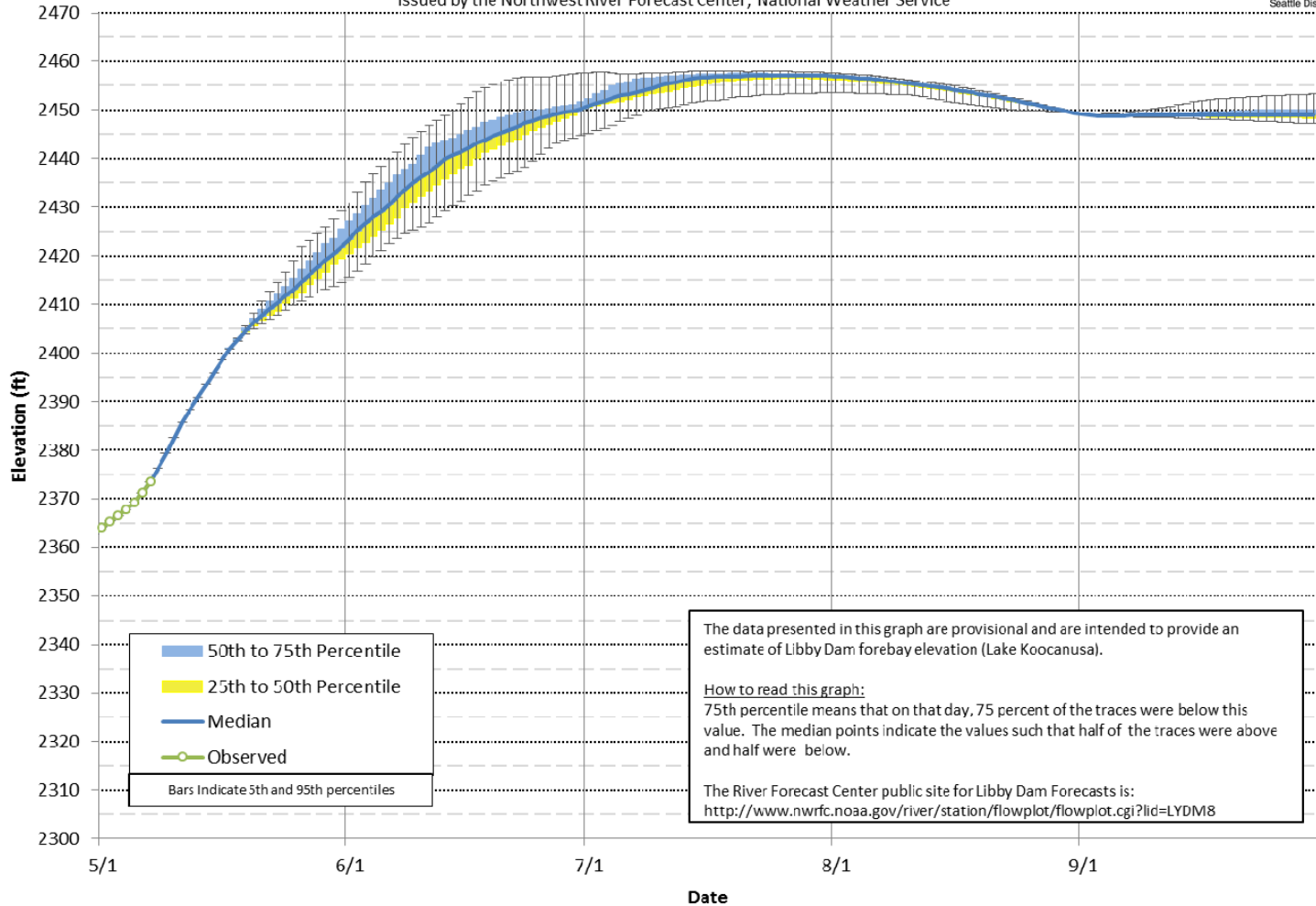
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Modeled using current ESP traces as of 05/06/18

Lake Koochanusa Elevation - Probability Chart

Corps of Engineers Projections Based on the 69 Ensemble Streamflow Prediction Traces
Issued by the Northwest River Forecast Center, National Weather Service



The data presented in this graph are provisional and are intended to provide an estimate of Libby Dam forebay elevation (Lake Koochanusa).

How to read this graph:
75th percentile means that on that day, 75 percent of the traces were below this value. The median points indicate the values such that half of the traces were above and half were below.

The River Forecast Center public site for Libby Dam Forecasts is:
<http://www.nwrfc.noaa.gov/river/station/flowplot/flowplot.cgi?lid=LYDM8>



STURGEON PULSE OPERATION

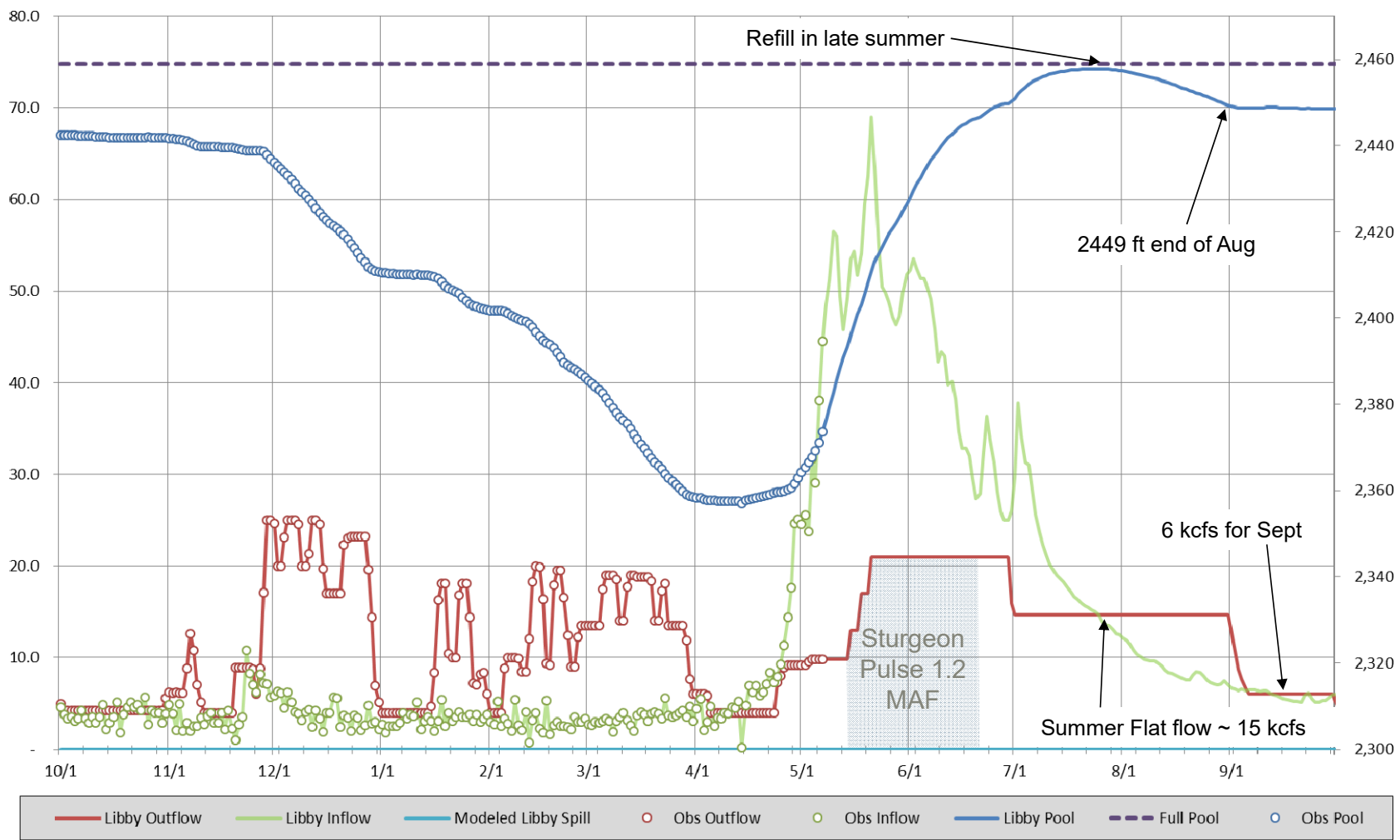


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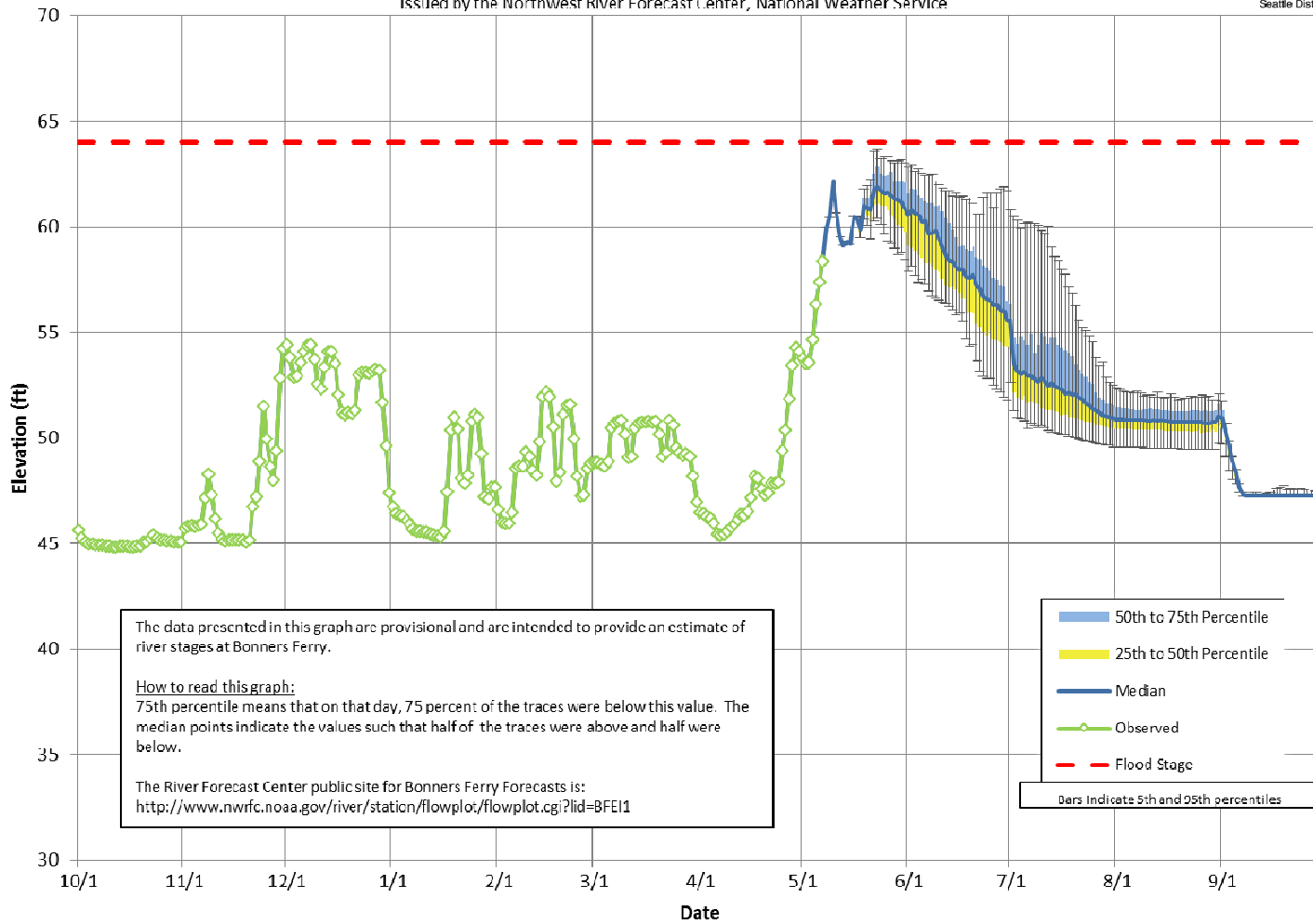
Libby Dam ESP trace for 2008 conditions = 7.41 MAF forecast



Modeled using current ESP traces as of 05/08/13

Bonnors Ferry Stage

Corps of Engineers Projections Based on the 69 Ensemble Streamflow Prediction Traces
Issued by the Northwest River Forecast Center, National Weather Service



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QUESTIONS?



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