

Kootenai Basin Operations for 2013

Joel Fenolio, P.E.

Upper Columbia Senior Water Manager

Seattle District

15 Apr 2013



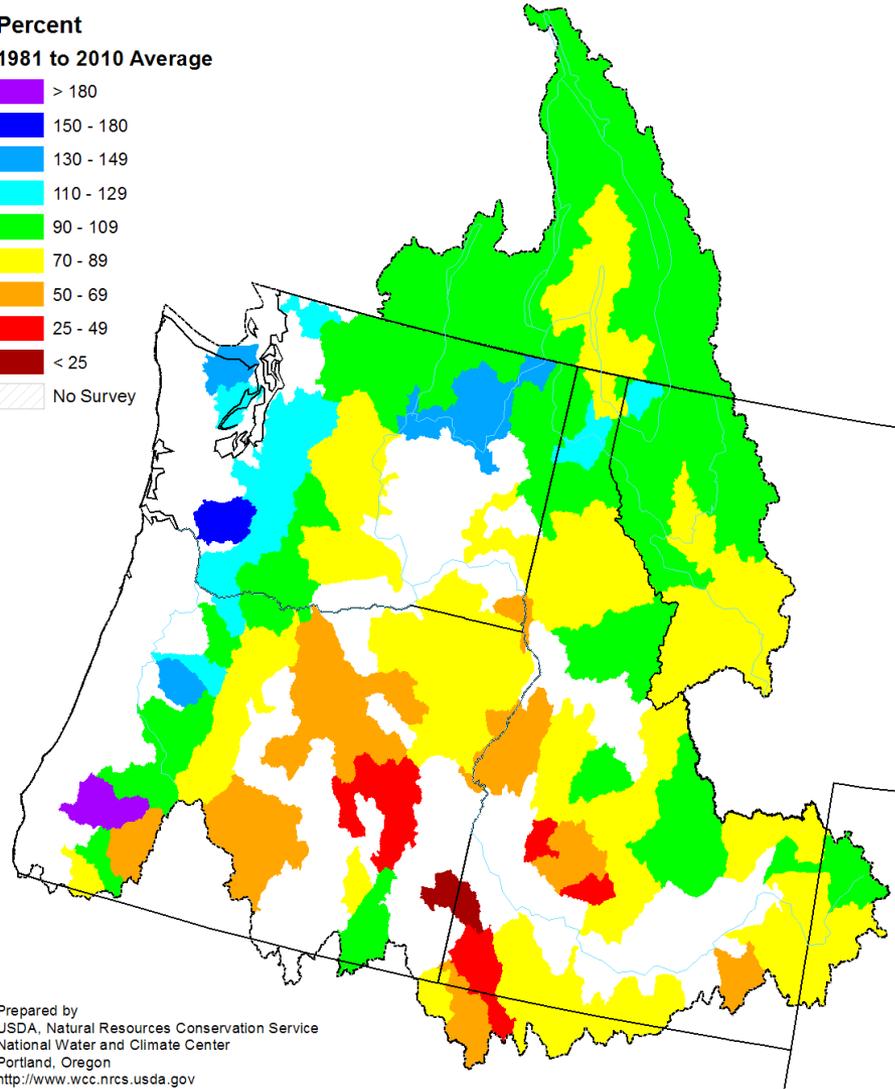
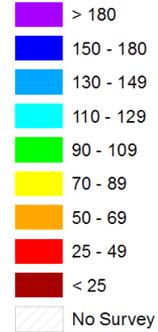
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US Army Corps of Engineers
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Columbia River Mountain Snowpack as of April 1, 2013

Percent

1981 to 2010 Average



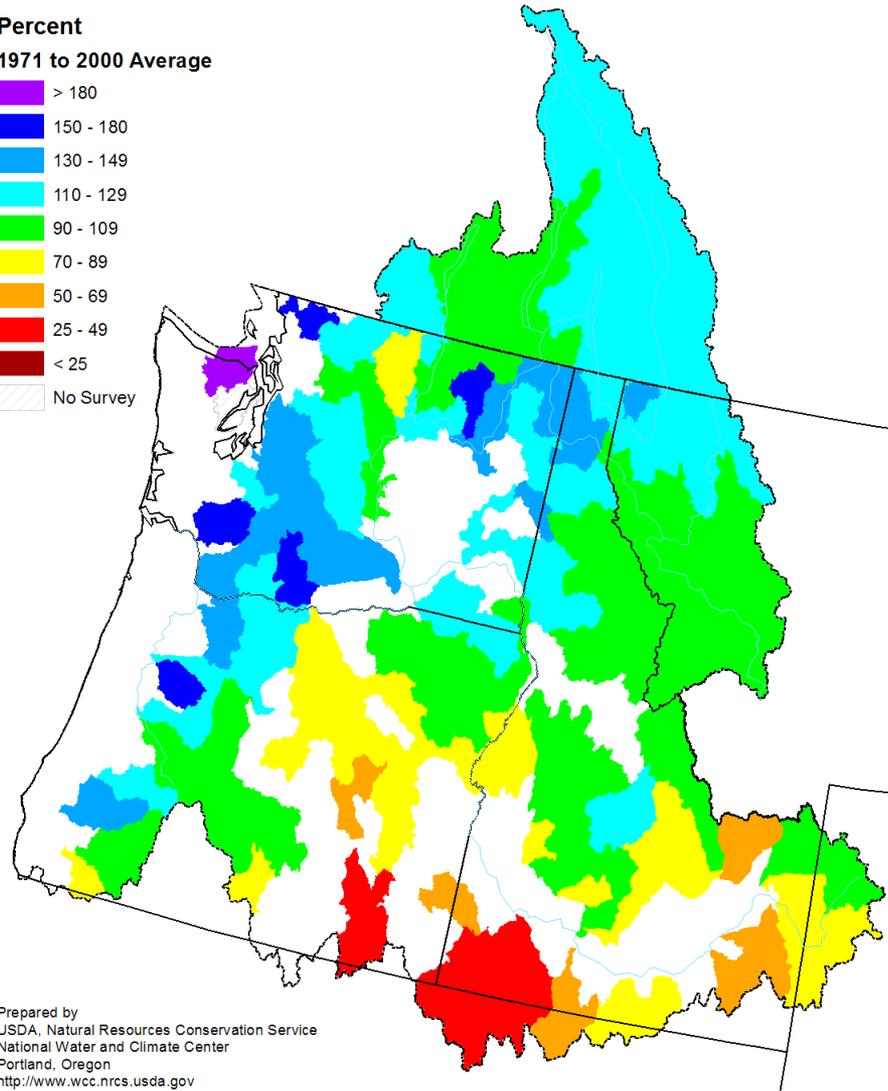
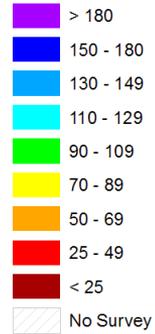
Prepared by
USDA, Natural Resources Conservation Service
National Water and Climate Center
Portland, Oregon
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Columbia River Mountain Snowpack as of April 1, 2012

Percent

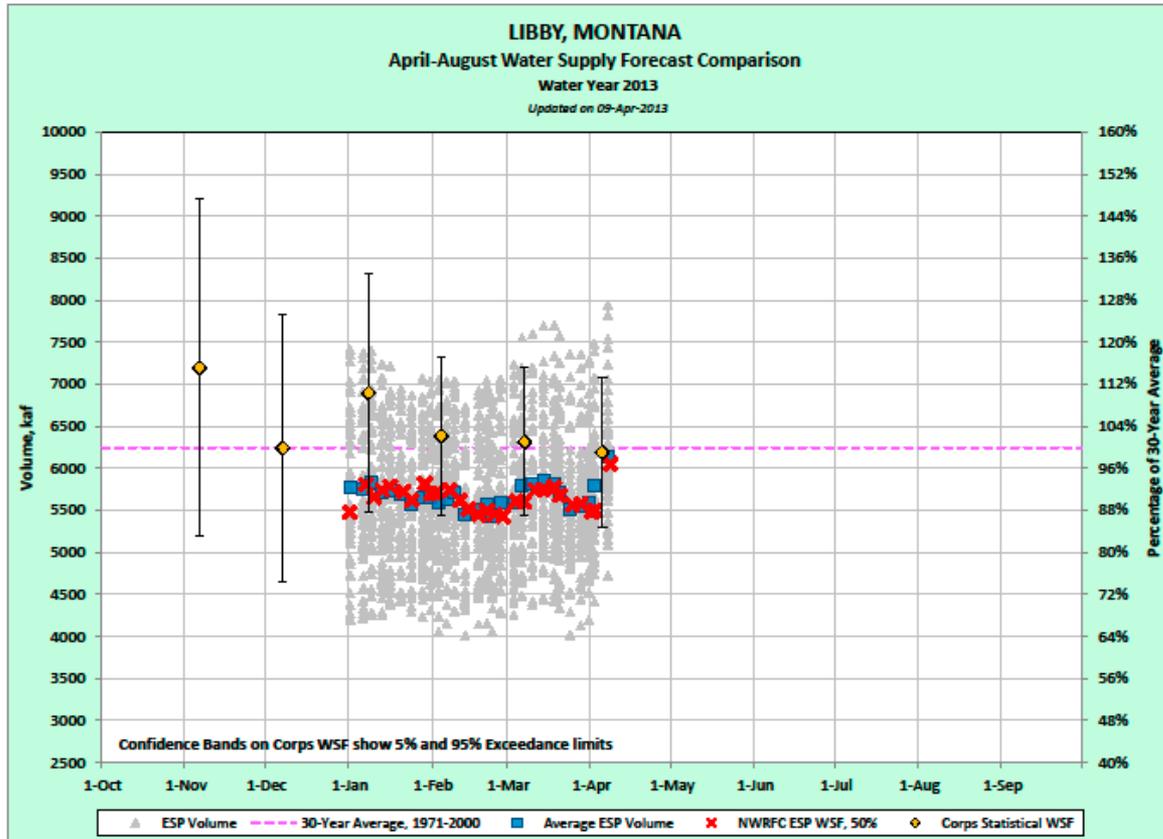
1971 to 2000 Average



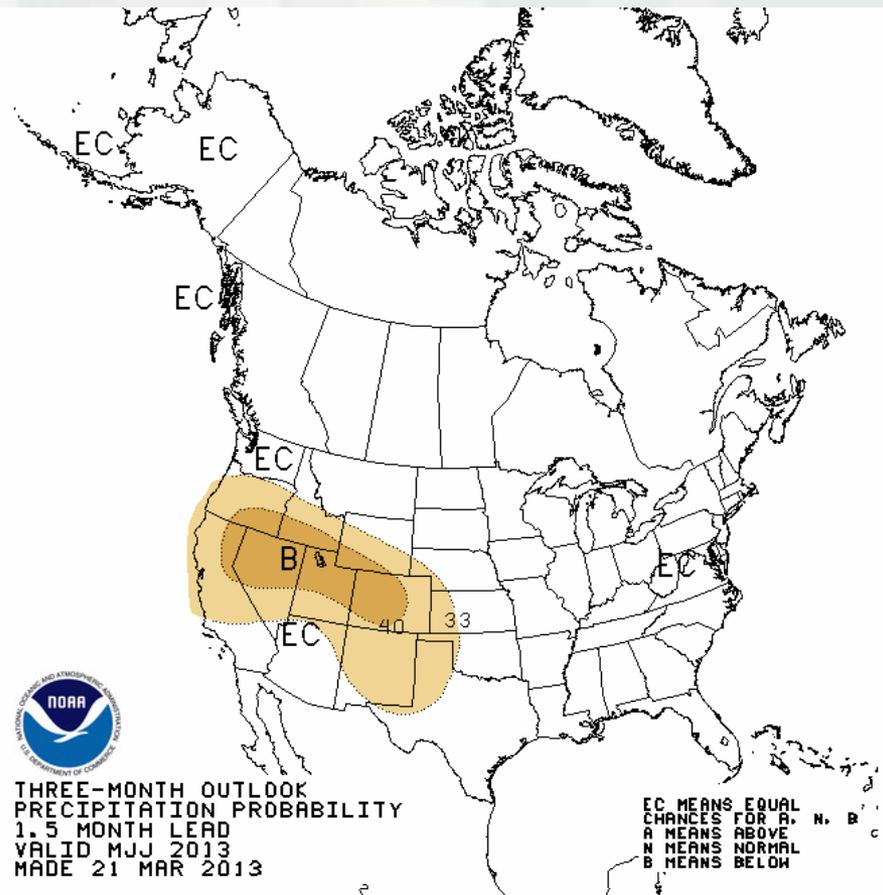
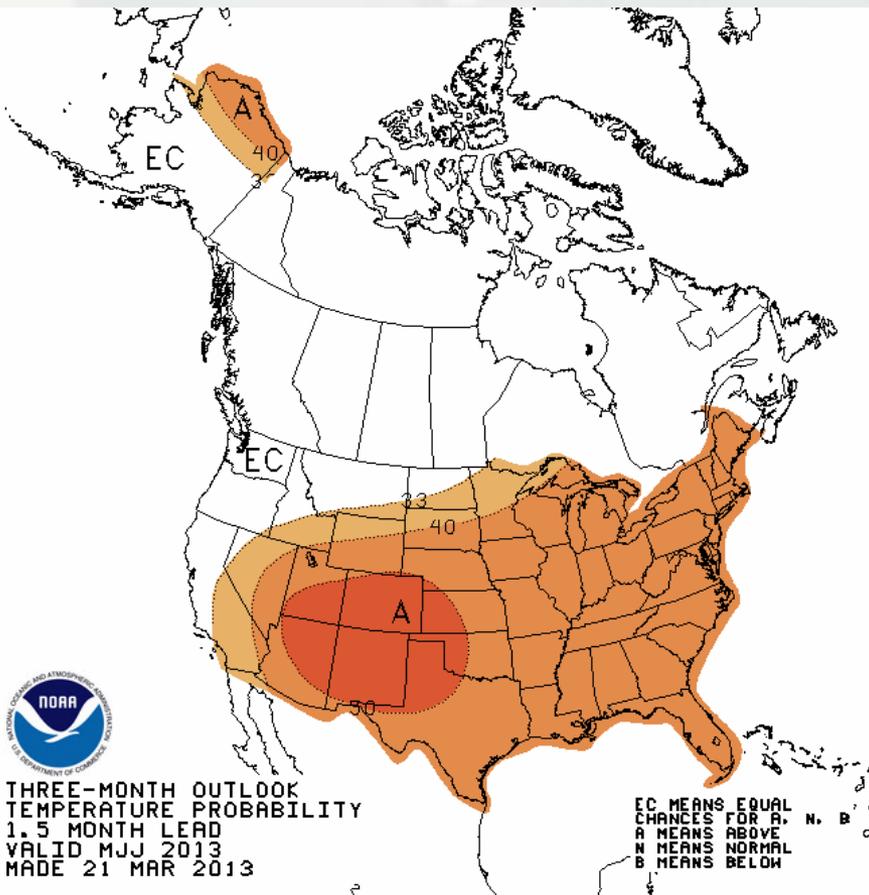
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- Current Apr-Aug inflow for Libby Dam
 - ▶ 6189 KAF (105% or average)



May-July Outlook Temperature and Precipitation

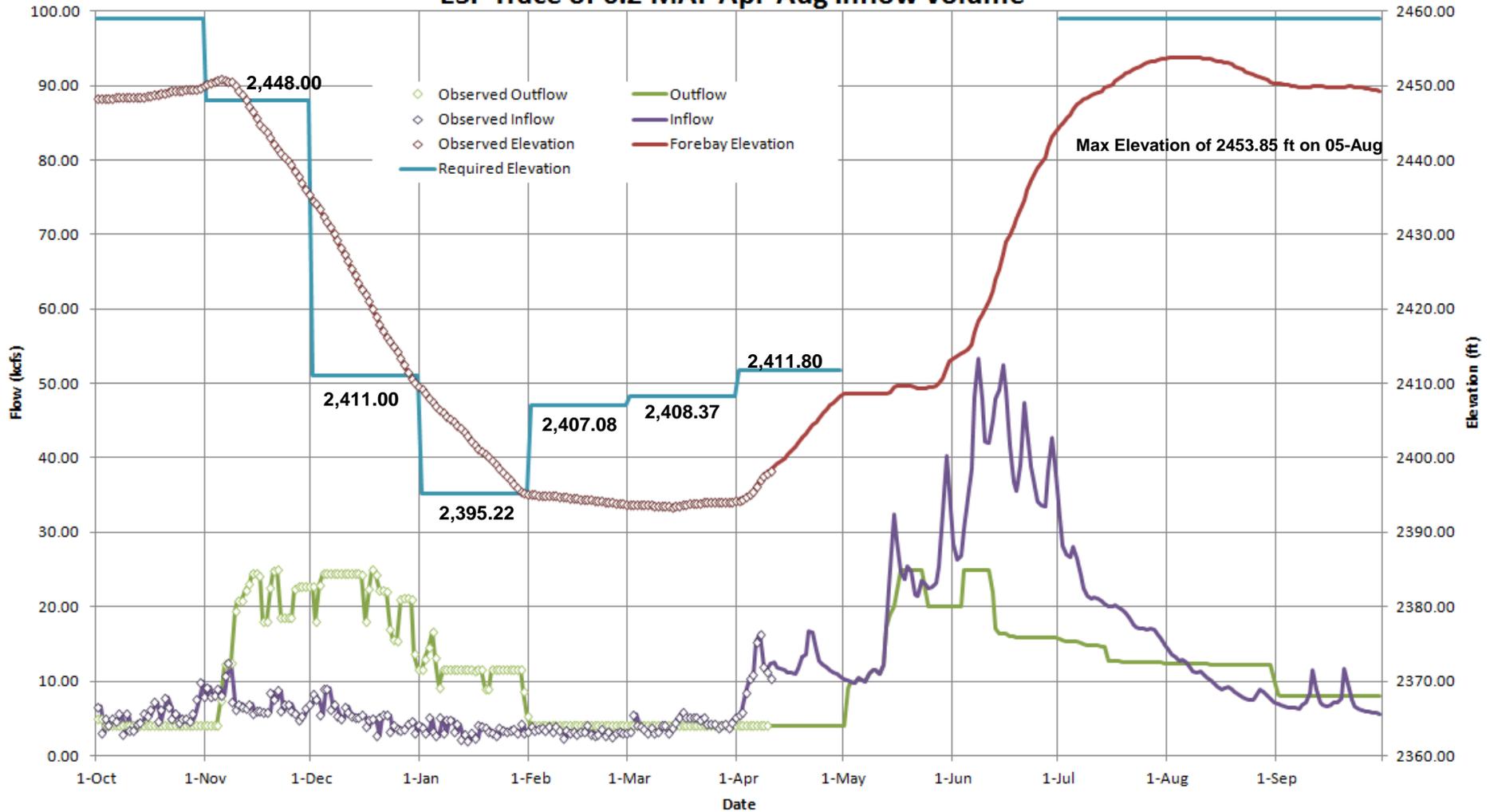


Operations

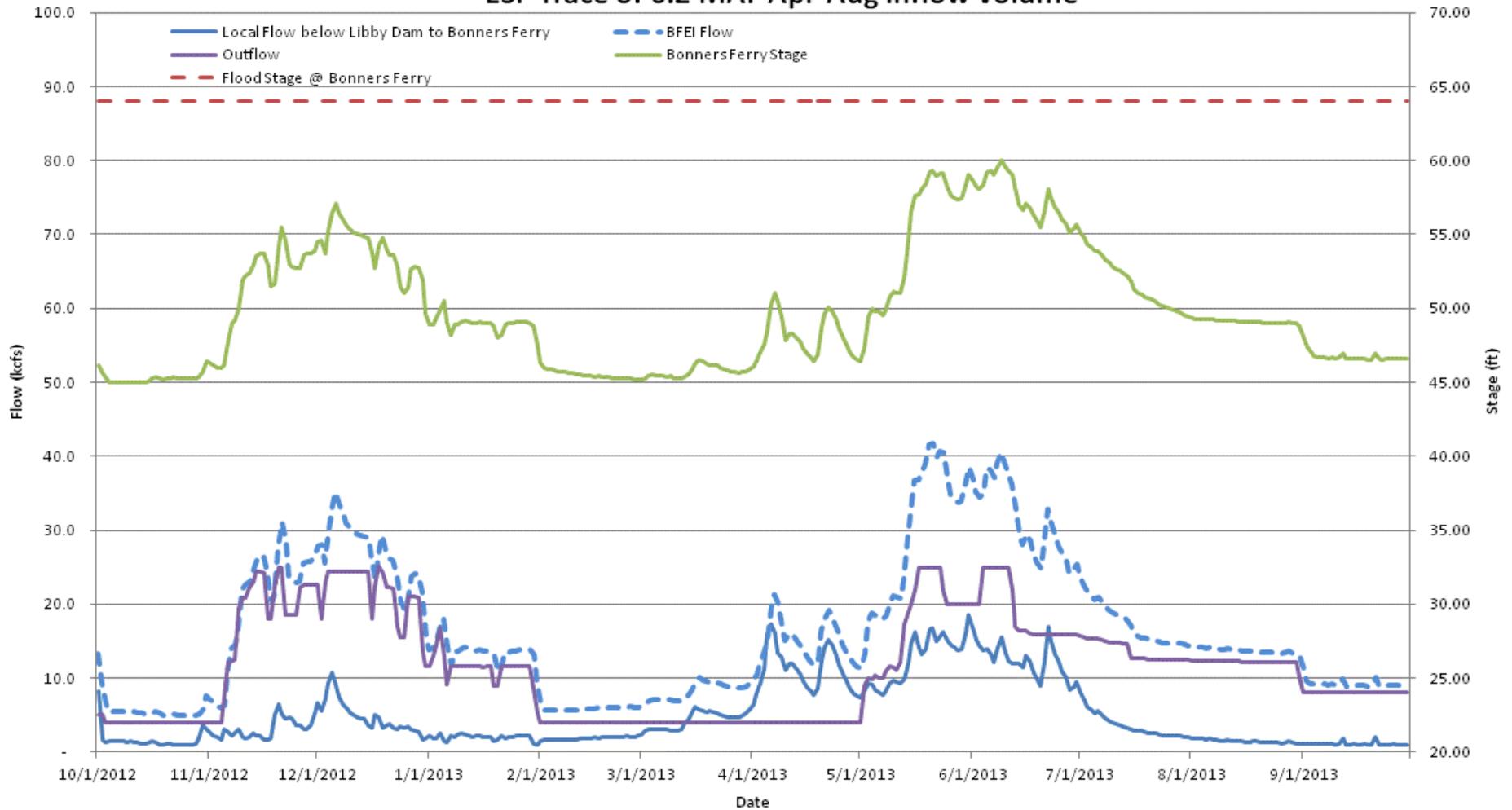
- Current Elevation is 2399 ft (2.4 MAF of Space out of 5 MAF total for Flood Control)
- Operating to minimum flow and releasing 4 kcfs
 - ▶ Inflows to Libby Dam May cause higher releases this month
 - ▶ VarQ releases would also cause release to increase
- Upcoming Operations
 - ▶ Sturgeon Pulse
 - No spill
 - May come as early as mid May
 - Requires peak releases for 14 days
 - ▶ Summer Operations
 - Target elevations to support Kootenai Tribe Habitat Work



Lake Kocanusa Operations from April 11th ESP Trace of 6.2 MAF Apr-Aug Inflow Volume

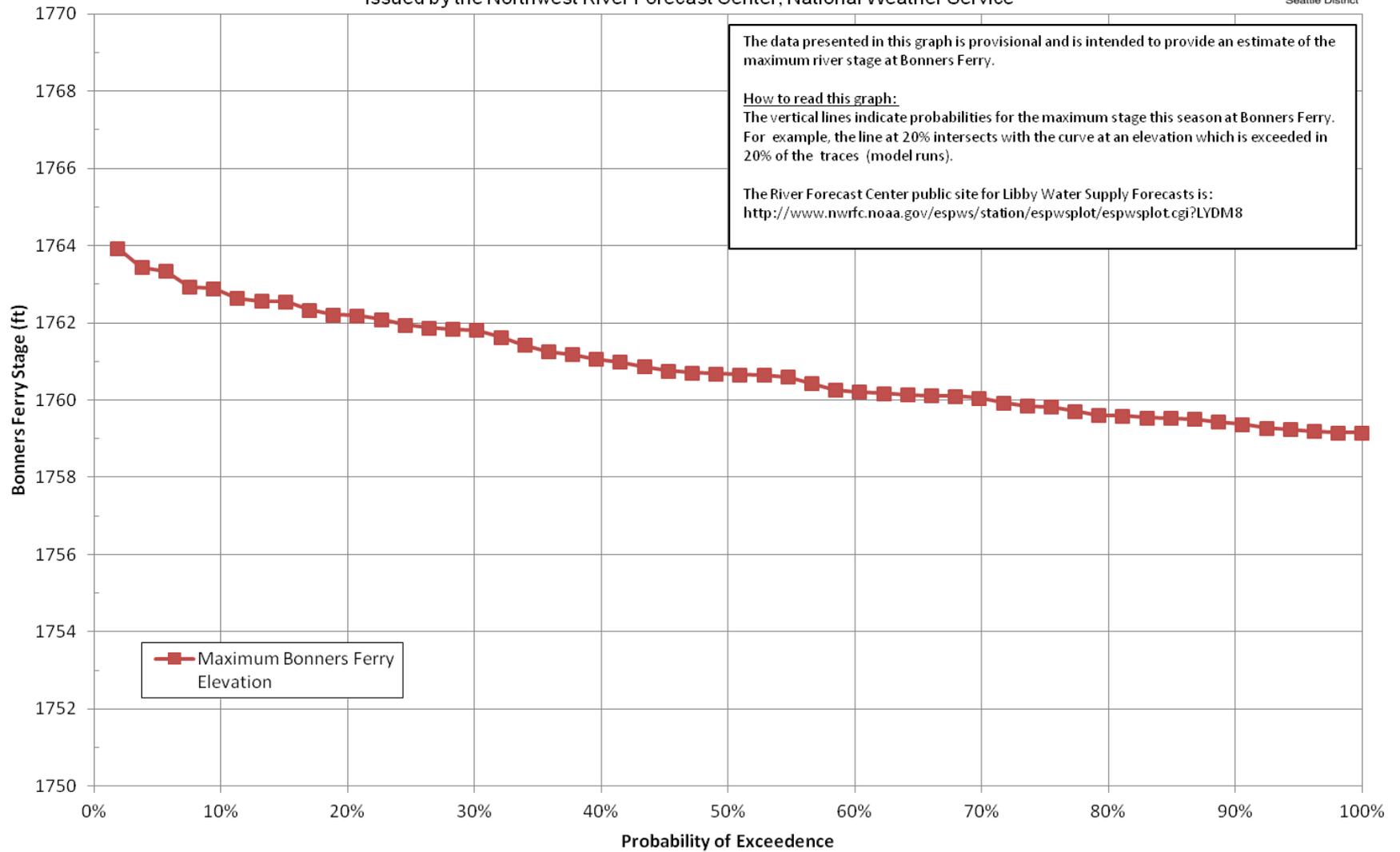


Libby Dam Operations from April 11th ESP Trace of 6.2 MAF Apr-Aug Inflow Volume



Maximum Bonners Ferry Stage - Probability Chart

Corps of Engineers Projections Based on the 53 Ensemble Streamflow Prediction Traces
Issued by the Northwest River Forecast Center, National Weather Service



Summary of 2013

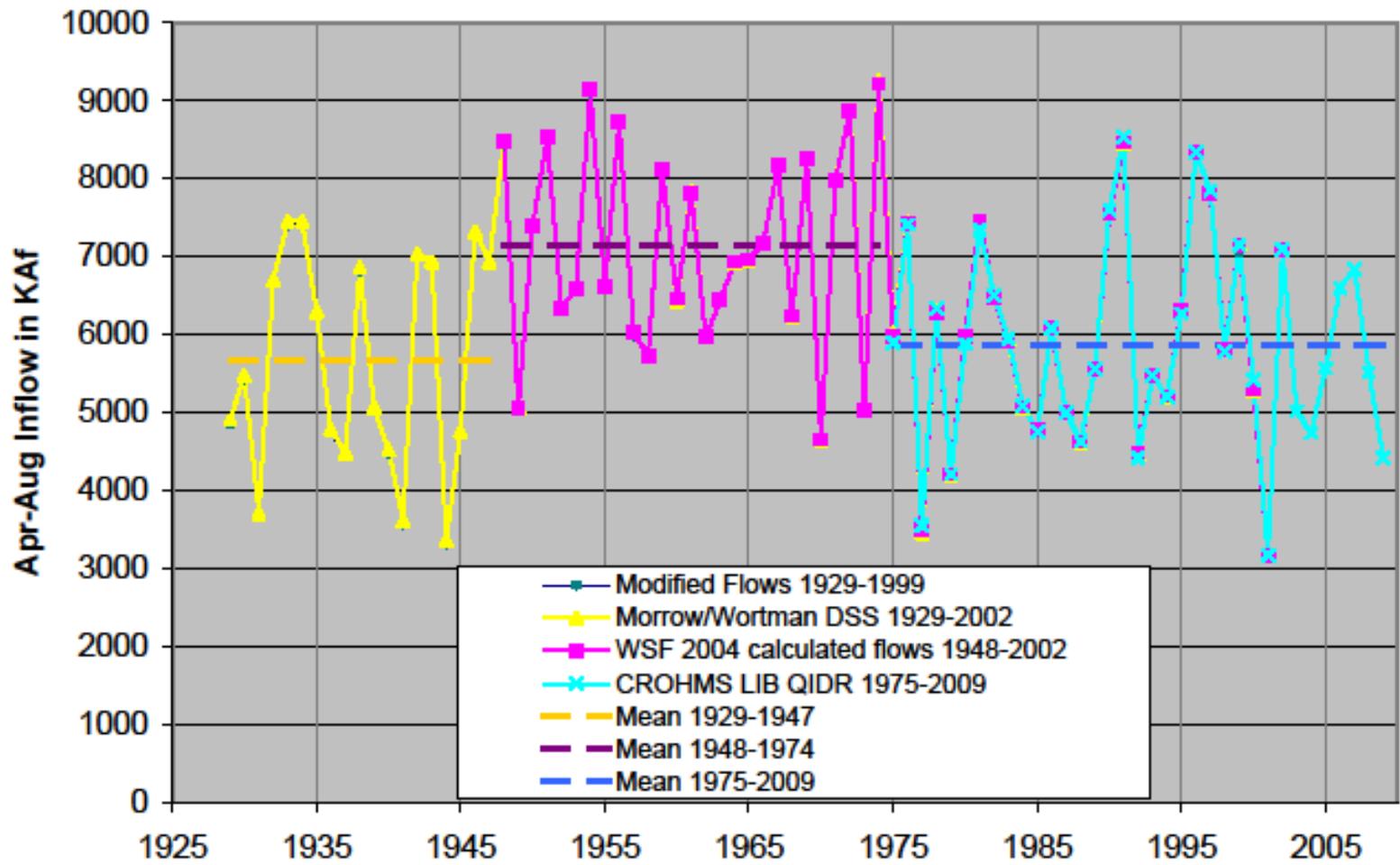
- Flood Risk moderate – based off current snowpack and predictions
- No Spill for the Sturgeon Pulse but expect operation to start earlier than the last few years (May 15th to May 31st)



Forecasting: Choosing a Period of Record

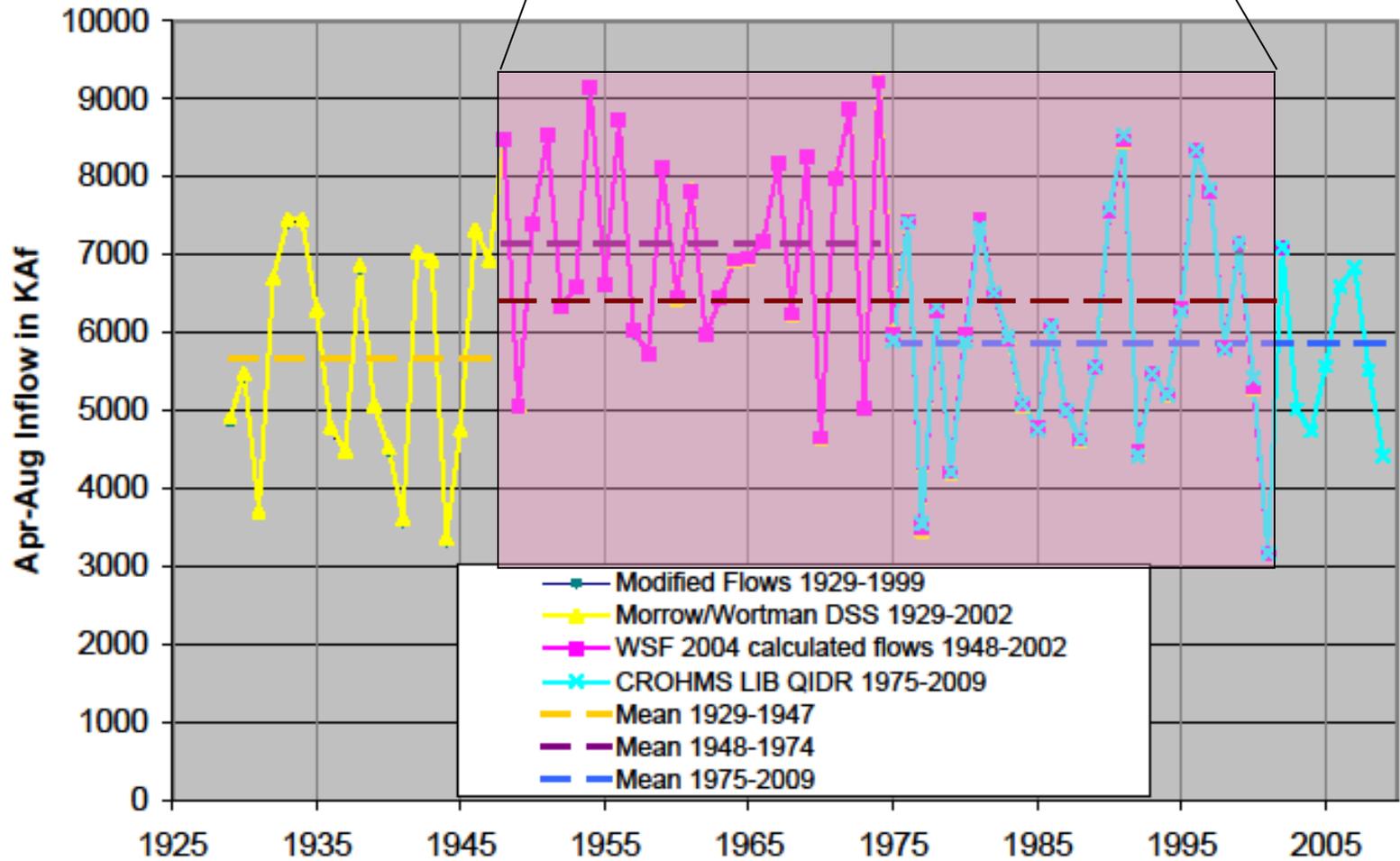


Libby Inflow



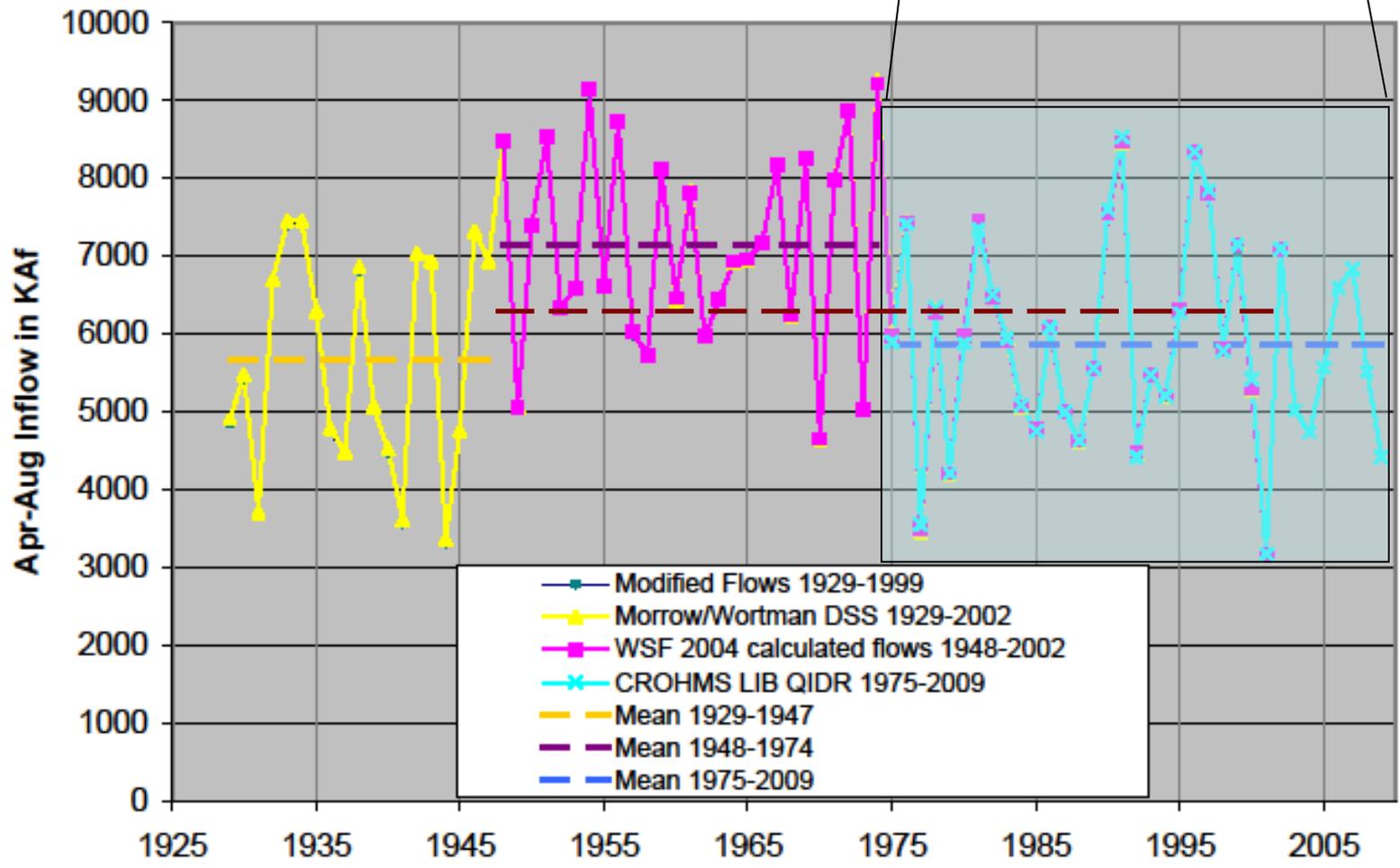
Inflows used to develop
previous WSF methodology

Libby Inflow



Inflows currently used for the new WSF methodology

Libby Inflow

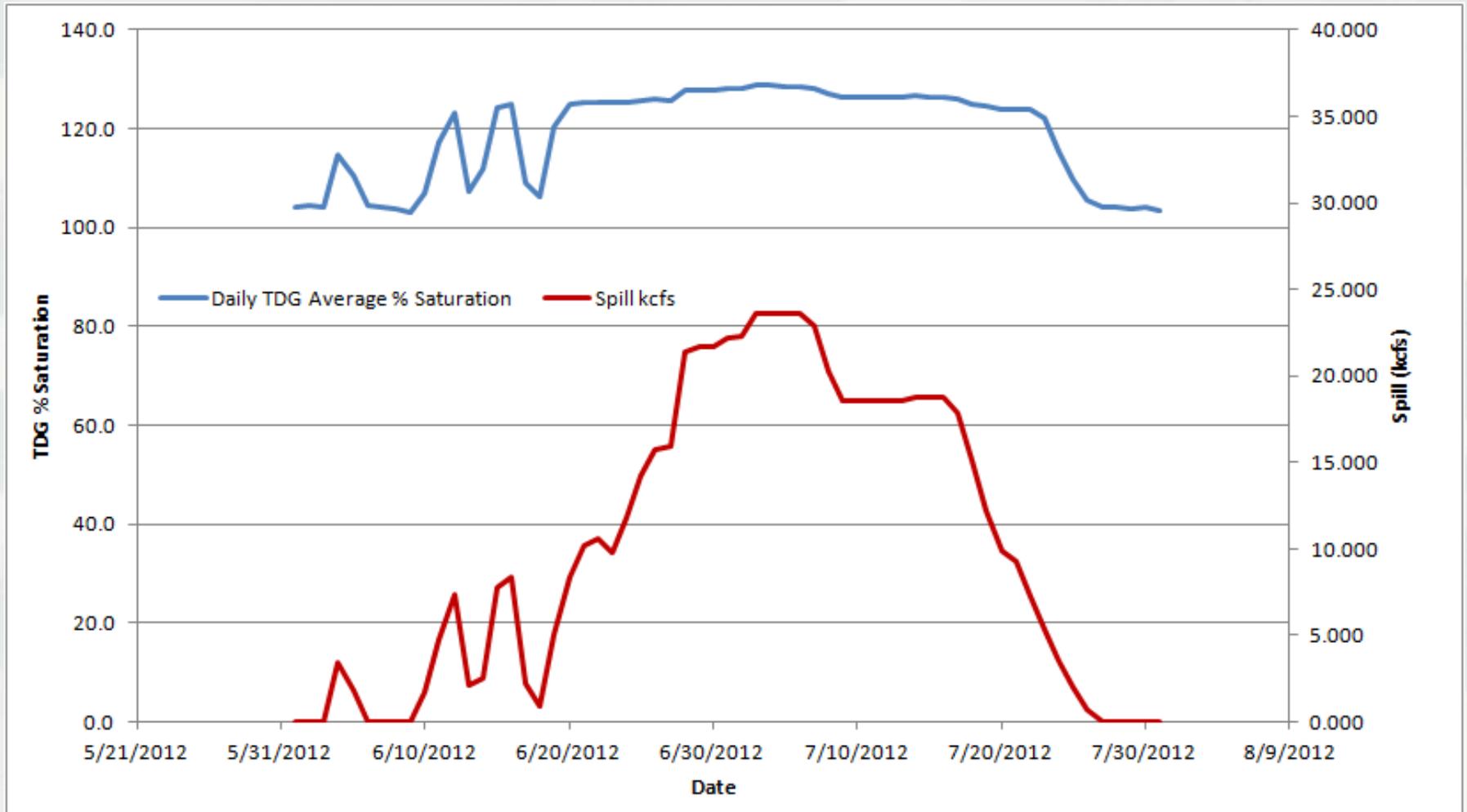


Additional Slides



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Total Dissolved Gas Concentration 2012

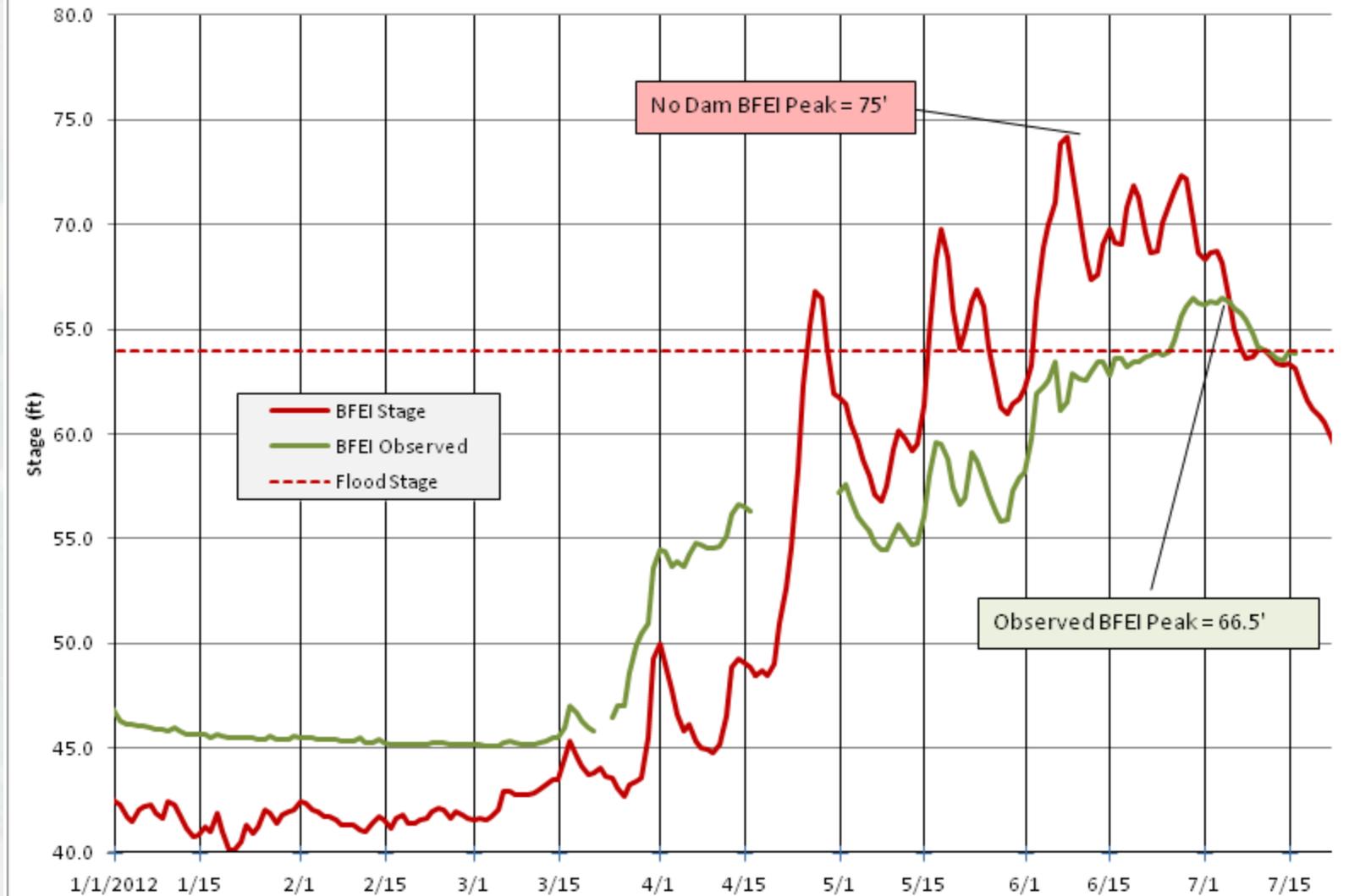


Libby Dam Forecast 2012

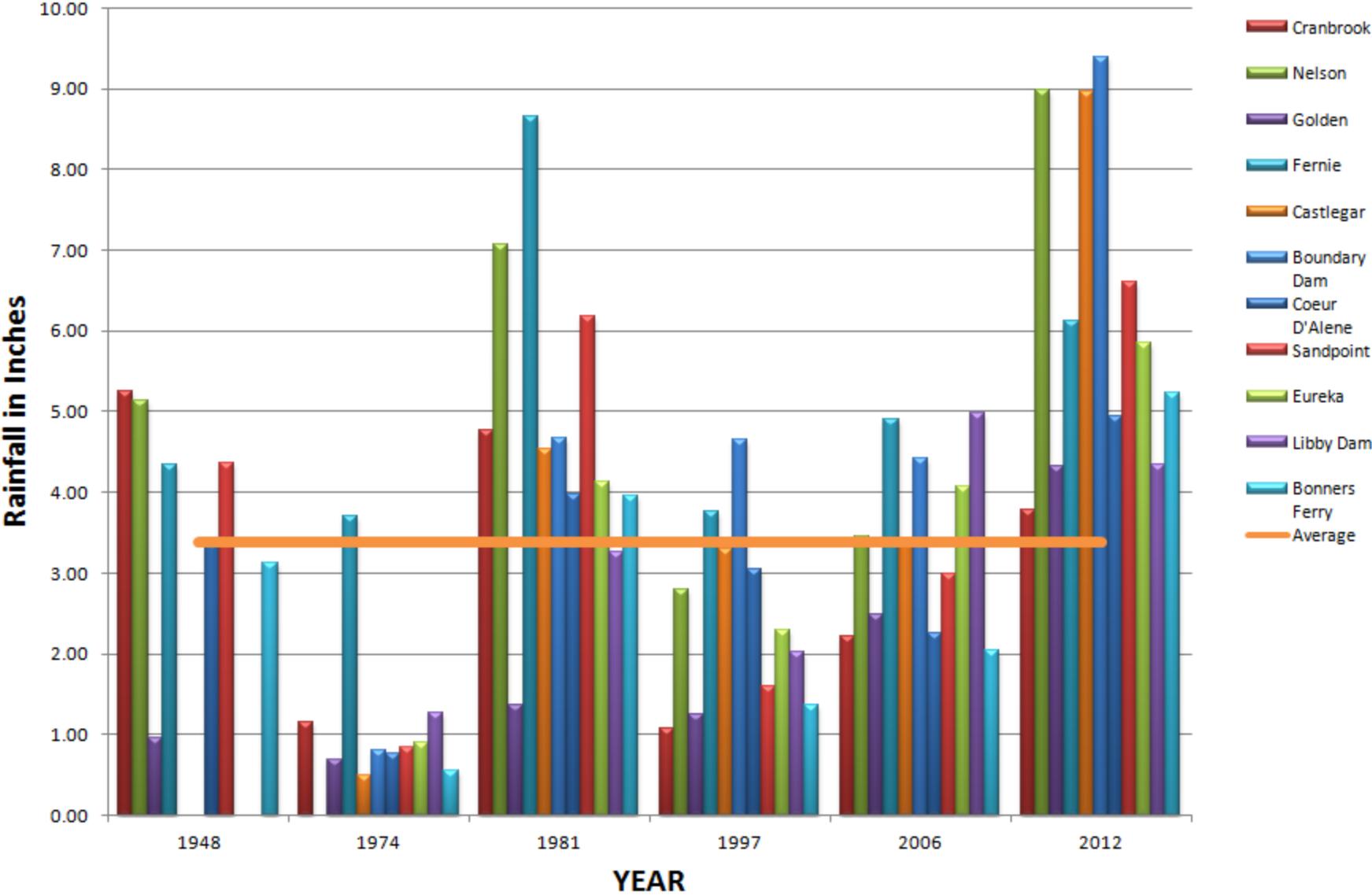
Month of Forecast	First-of-Month Apr-Aug Volume Forecast (MAF)	Model Standard Error	Number of Standard Errors Different Than Observed	End-of-Month Flood Control Target (FT)
Dec	5876	947	3.5	2412
Jan	5524	841	4.4	2410
Feb	5714	564	6.2	2408
Mar	5635	527	6.8	2402
Apr	6872	532	4.4	2390
May	7159	487	4.2	
June	7240	418	4.7	
Observed	9200			
Average	5900			



BFEI Stage 2012 - Observed vs. No Dam



Historic June Rainfalls



QBYB Stage 2012 - Observed vs. No Dam

