

NPCC & NOAA

Flow Survival Symposium

November 9 & 10, 2004

Jim Litchfield

Montana

Montana's Objectives

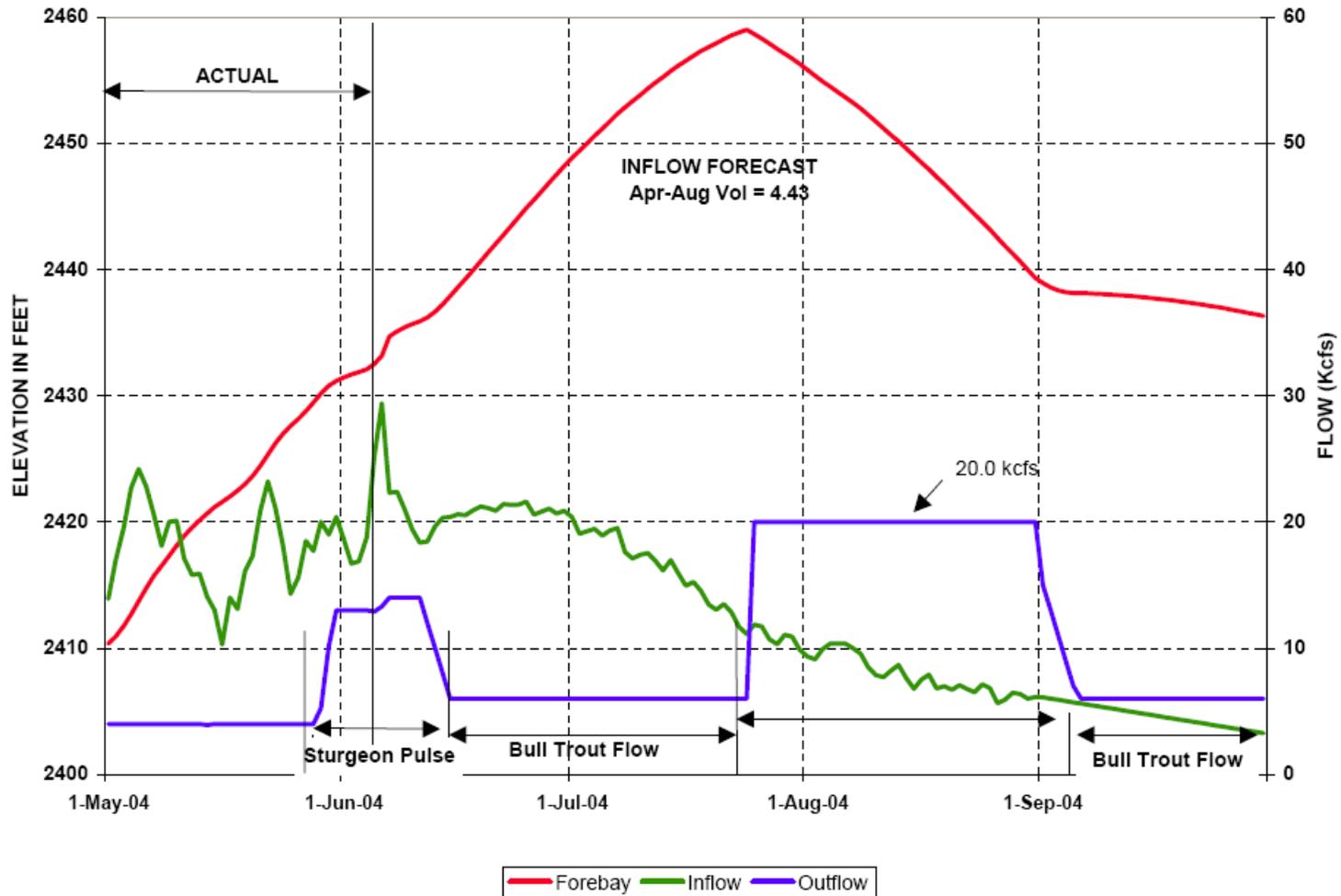
- Implement Council's Mainstem recommendations for Libby and Horse
- Evaluate – to the extent possible – the biological and physical effects of changes
- Provide improved ecosystem conditions in both rivers and reservoirs in Montana
- Minimize any potential impacts on fish in the Lower Columbia in driest water years

Montana's SOR

- Provide stable flows in Montana during July, August and September
- Draft Libby & Horse 20 feet from full by end of September – driest 20th percentile year
- Adjust flows gradually in response to changes in actual inflows
- Follow ramp rates and minimum flows for bull trout

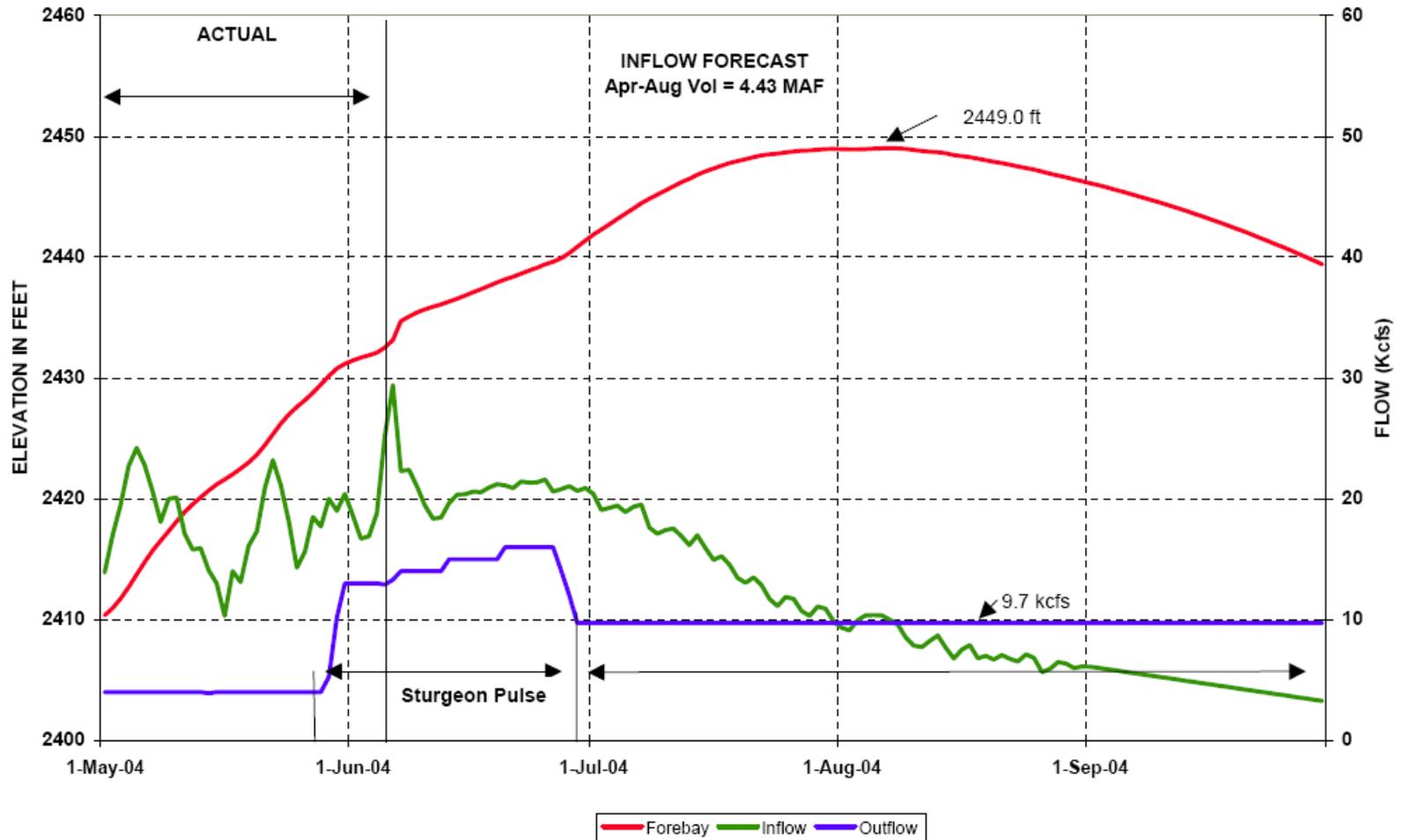
Forecast Biop Flows on June 9

LIBBY: STOP PULSE IN JUNE, BULL TROUT FLOWS, 2439 e.o. AUG
May 01, 2004 to September 30, 2004

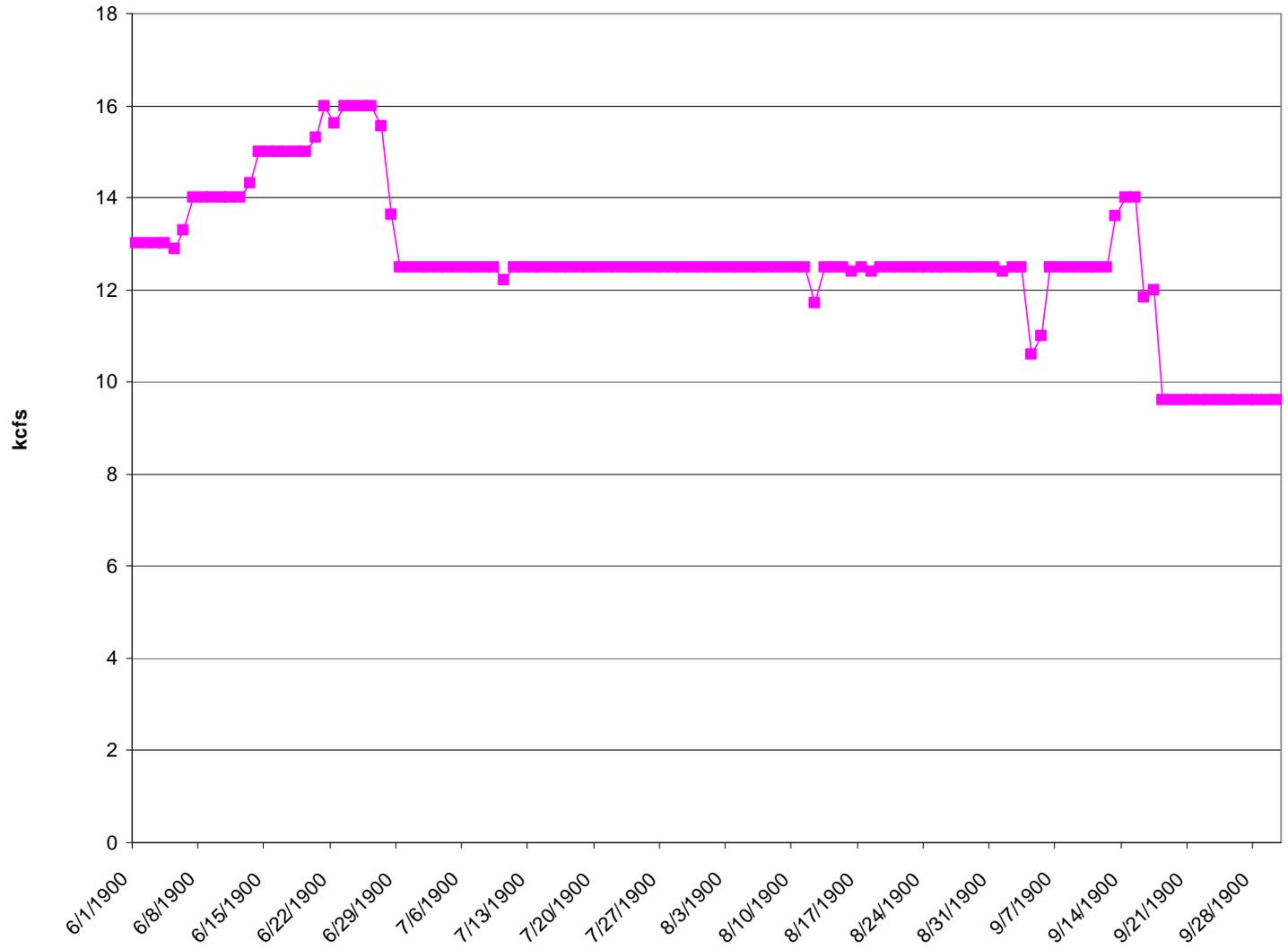


Forecast Flat Flows on June 9th

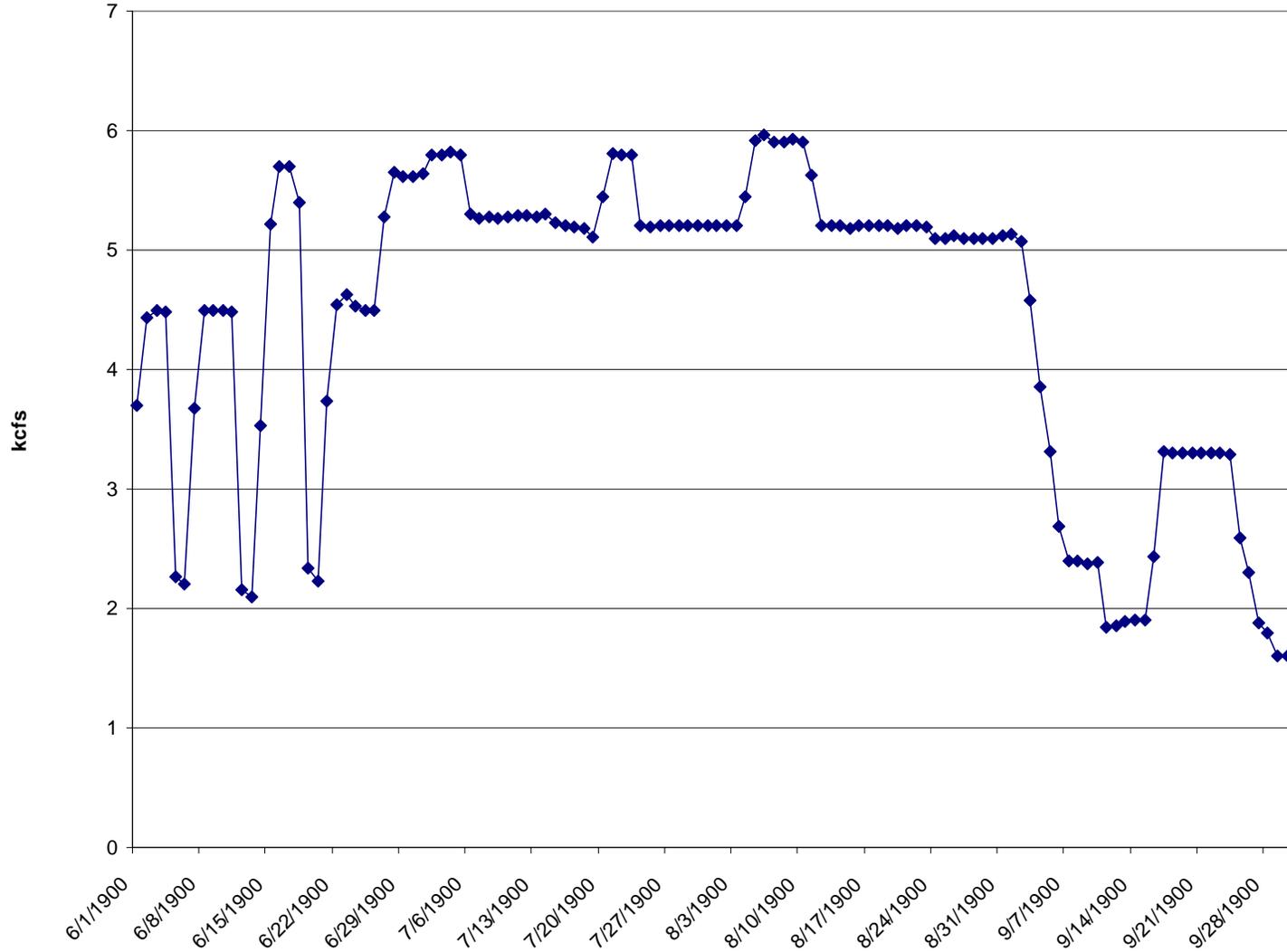
LIBBY SOR 2004-FWS1 OPERATION WITH 2439 e.o. SEP
May 01, 2004 to September 30, 2004



Libby Outflows 2004



Hungry Horse Outflows 2004



Conclusions

- The scientific issue is NOT the difference between survivals between flood and drought years!
- The questions for this Symposium are focused on the feasibility of measuring flow changes in the Lower Columbia in 1% to 5% range.
 - Physical changes in flow – over what period?
 - Biological changes in reach survivals?