



# TECHNICAL MANAGEMENT TEAM 2008 Year End Review

Libby Operations

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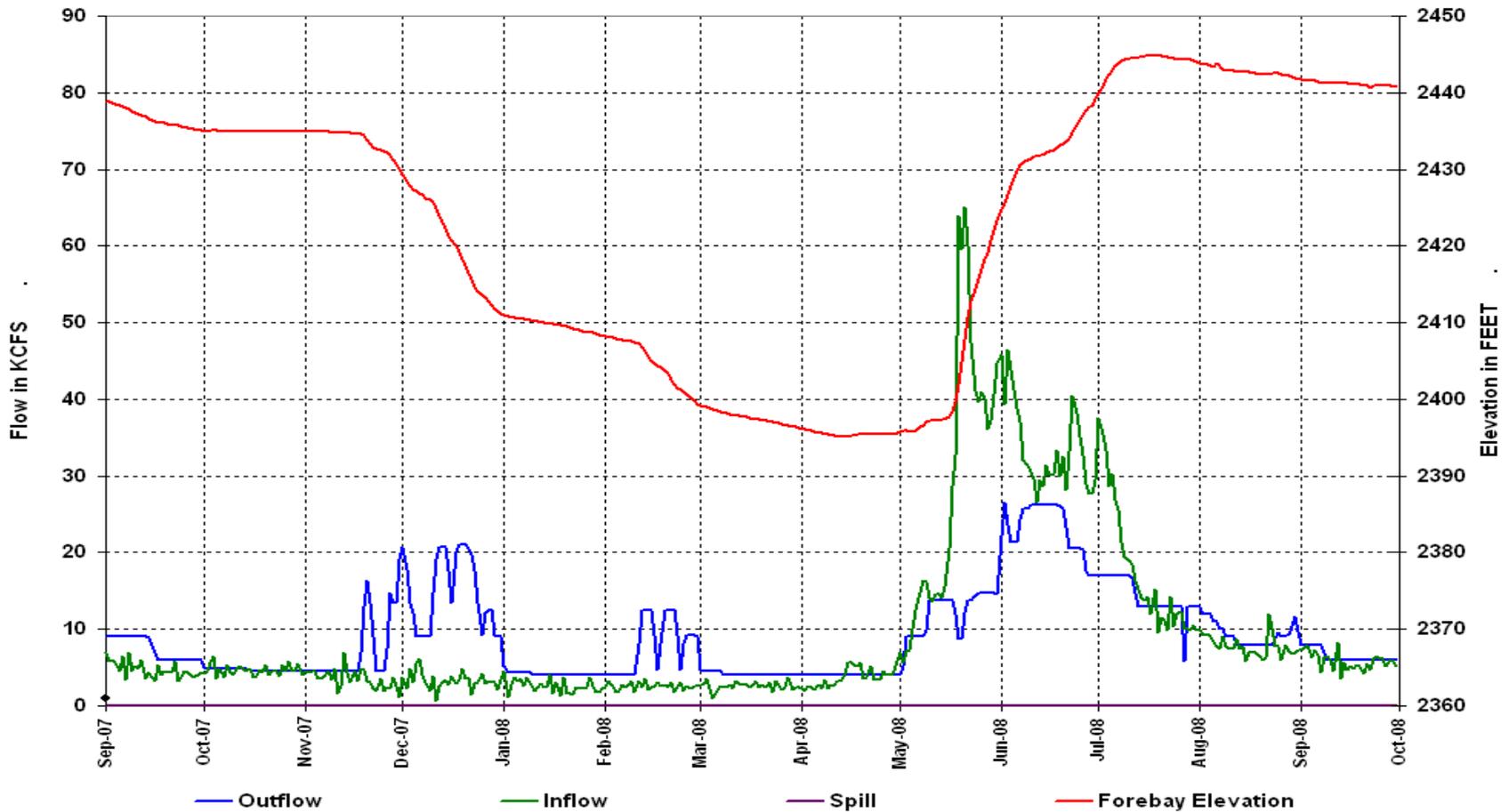
November 21, 2008

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## Libby Reservoir

September 01, 2007 to October 01, 2008



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# Major Events and Operations at Libby for 2008

- Sturgeon Pulse.
- Libby peak elevation 2445 feet.
- Operation of Canadian Treaty and Libby Storage Reservoirs (Libby-Canadian Storage Swap)



# Sturgeon Pulse

- Based on May final water supply forecast, sturgeon volume was 1.04 maf
- Received System Operational Request from USFWS on May 30
  - June 1 went to full powerhouse (about 26 kcfs)
  - June 3 decreased to 4 units (about 21 kcfs).  
Decreased due to damaged temp control structure
  - June 7 went back to full powerhouse
  - June 27 exhausted 1.04 maf volume

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# Libby Refill

- May final Apr-Aug Forecast 97% of normal
  - Sets Sturgeon Volume
  - Sets VarQ flows
- June final Apr-Aug forecast 103% of normal
  - Based on this forecast the project was projected to fill above 2454 feet.
- Actual Apr-Aug Inflows were 89% of normal
  - Mainly due to unpredictable cold weather in June and sublimation of the snow pack.
  - July inflows dropped off faster than expected
  - Avoidance of “double peak” resulted in lower maximum elevation
- Libby’s actual maximum pool ended up at 2445 ft

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# Canadian Storage Libby Agreement

- 2008 Agreement was finalized August 12<sup>th</sup> authorizing an exchange of 60 ksfd, between Libby and Canadian Treaty storage projects.
- The agreement allowed Libby to be 60 ksfd (2.8') higher on Aug 31 while targeting an equivalent volume below Canadian Treaty storage regulation by Aug 31.



# Canadian Storage Libby Agreement (cont'd)

- If future agreements are desired consider using ESP forecasting tool for setting the operation at Libby.
  - Use ESP forecasting to choose outflows to achieve an the target elevation.
  - Maintain the stable outflows at Libby as a priority over a precise elevation objective.



## Outlook for Current Year

- Currently targeting 2435 ft end of November
- November Apr-Aug Forecast was 104% of Normal which indicates Dec target 2411 ft.
- Potential new requirement of drafting to 10 ft or 20 ft from full end of Sep could limit flexibility of summer operations.
- New draft requirement could limit the ability to implement future