

Bighorn Lake Operating Criteria Review: Status Update

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Operational Criteria Review

- **Goals:**

- *Were the anticipated benefits of the 2010 Operating Criteria realized?*
- *Where the actual operations did not meet expected benefits, explain the differences.*
- *Develop proposals to improve current criteria or areas of study.*

- **Methods:**

- Statistical (and graphical) review of historical data
- Planning modeling studies

- **Status:**

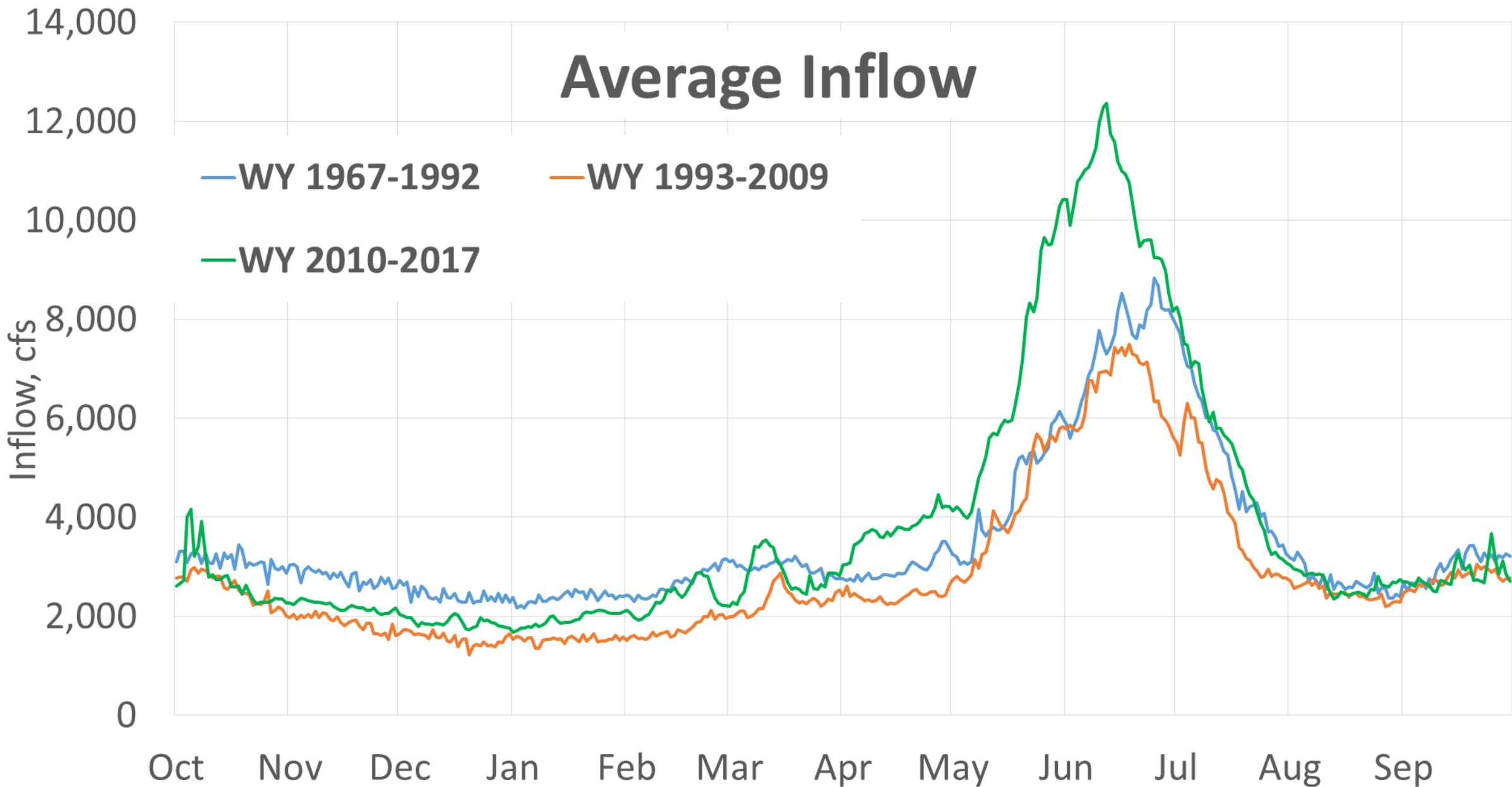
- Draft statistical review complete
- Draft model with 2000 SOP Operating Criteria and 2010 Operating Criteria complete
- Draft comparisons using 2000 SOP Operating Criteria/2010 Operating Criteria and perfect/historical forecasts complete
- Three Technical Working Group meetings complete

Average Inflow

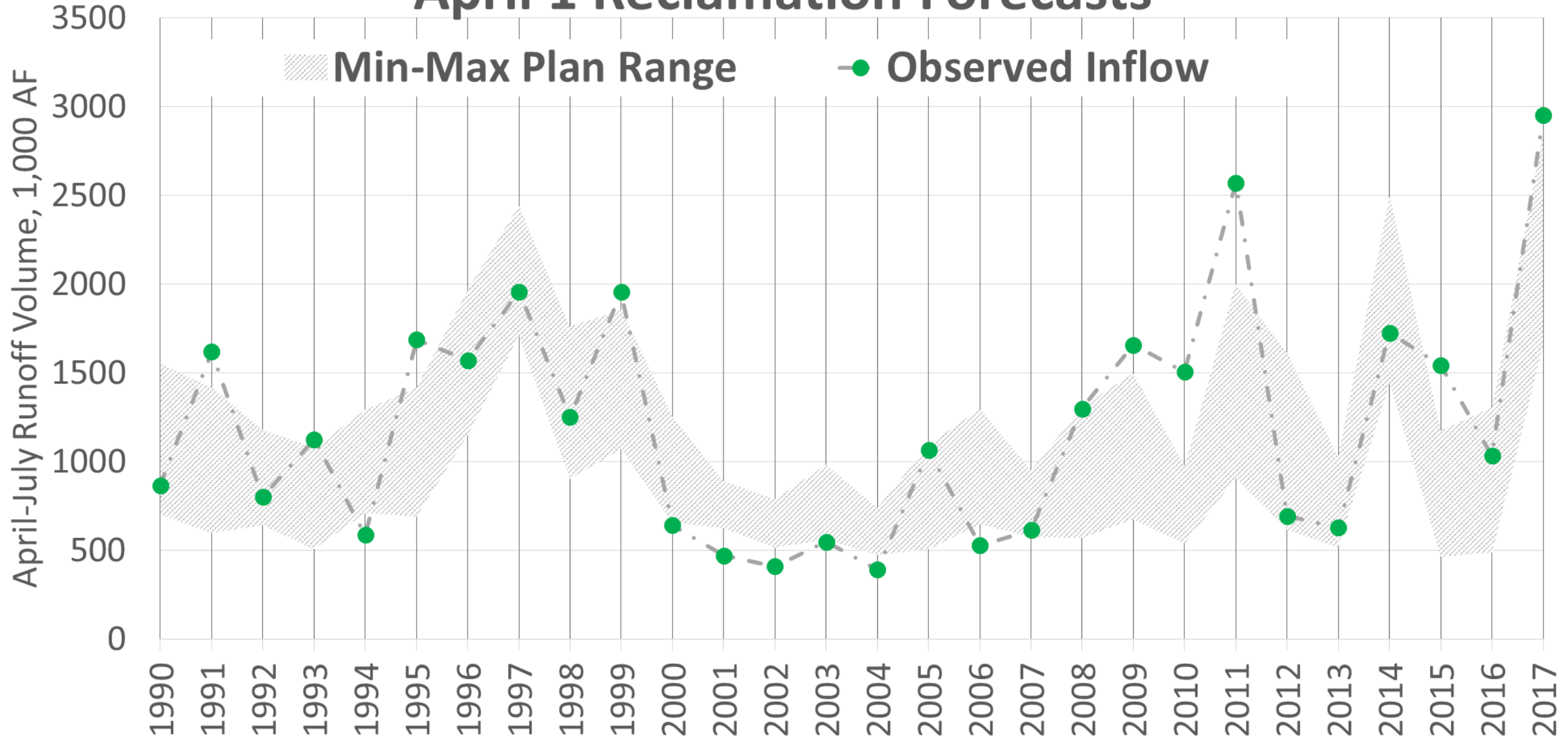
— WY 1967-1992

— WY 1993-2009

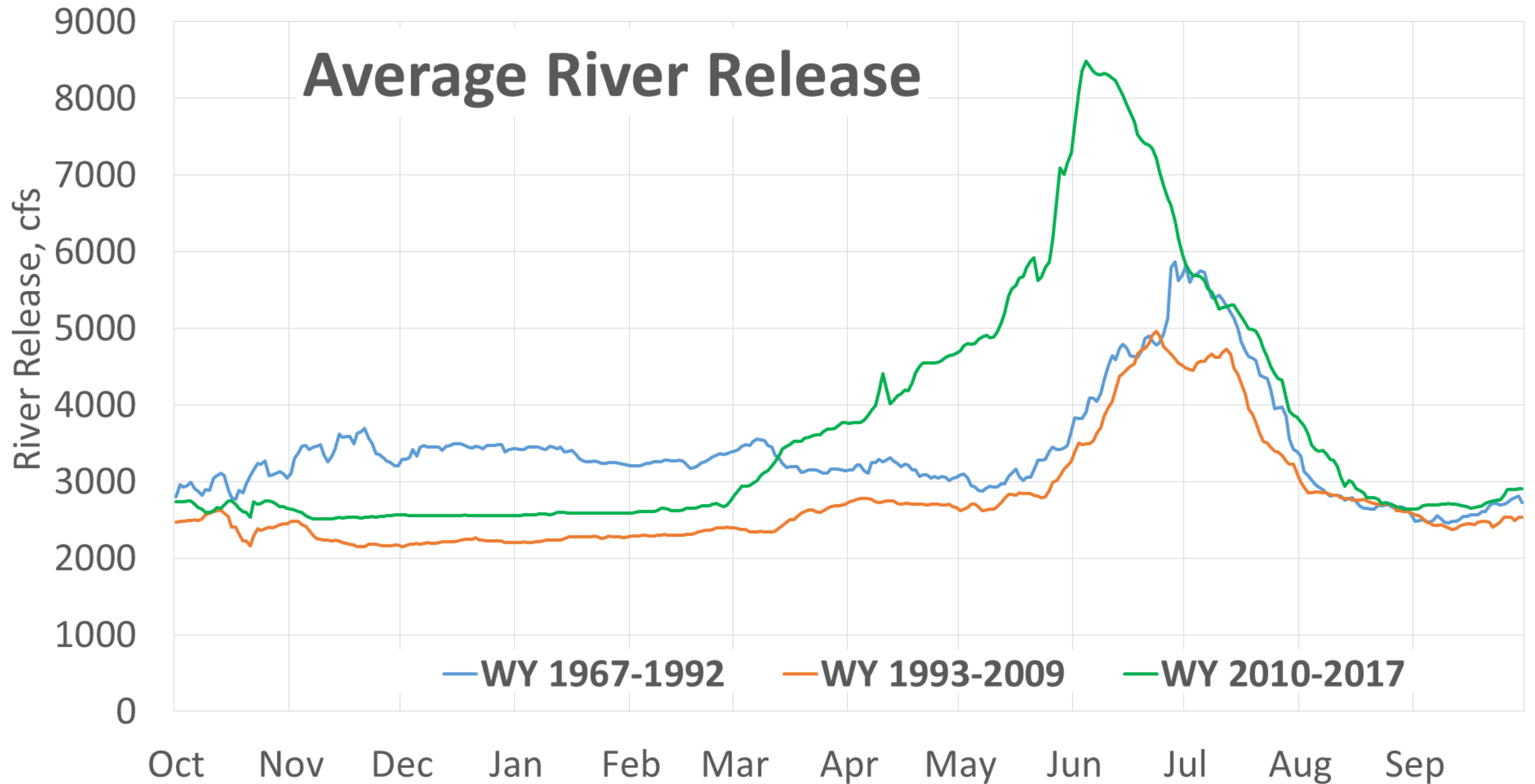
— WY 2010-2017

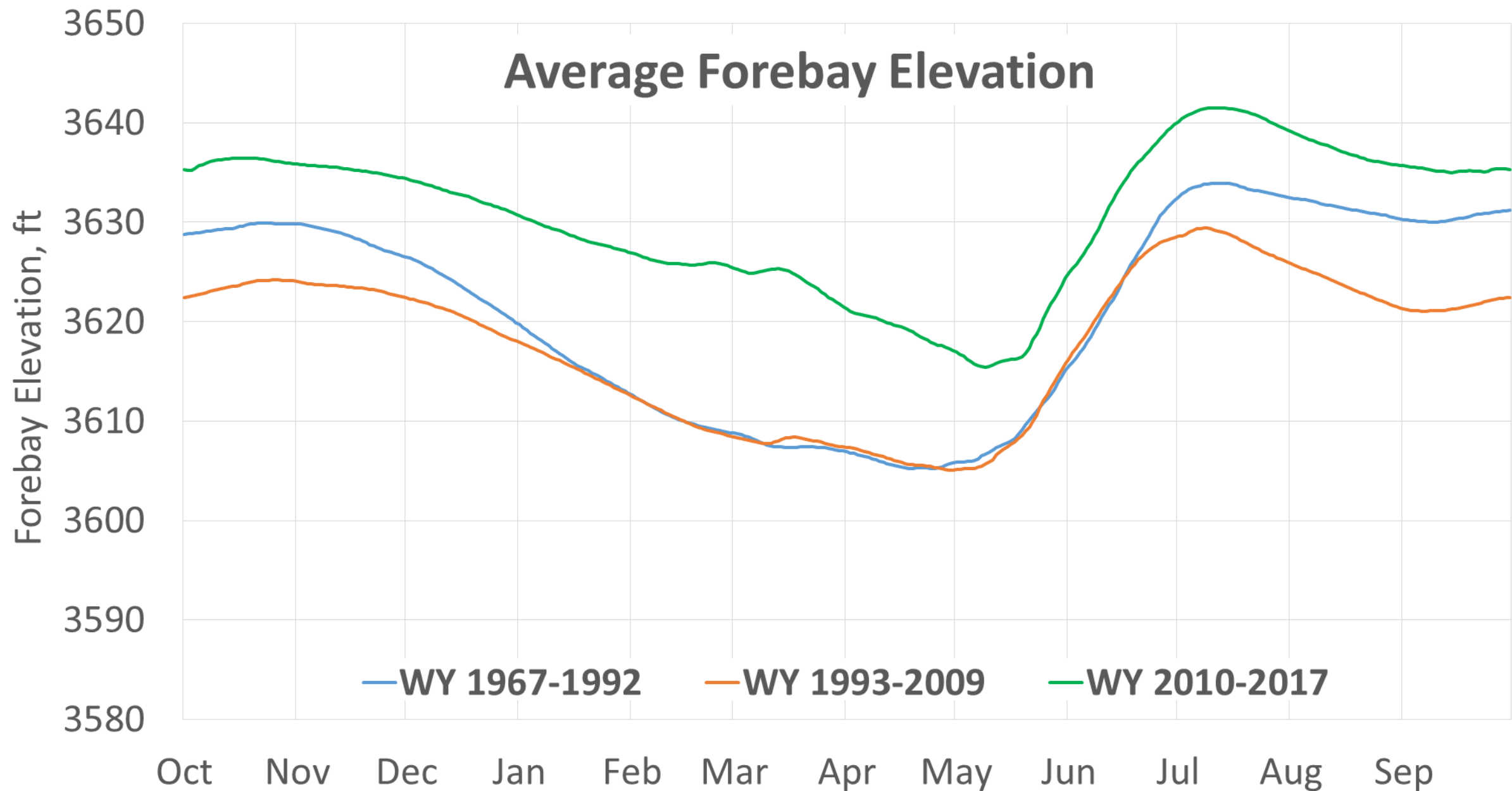


April 1 Reclamation Forecasts



Average River Release



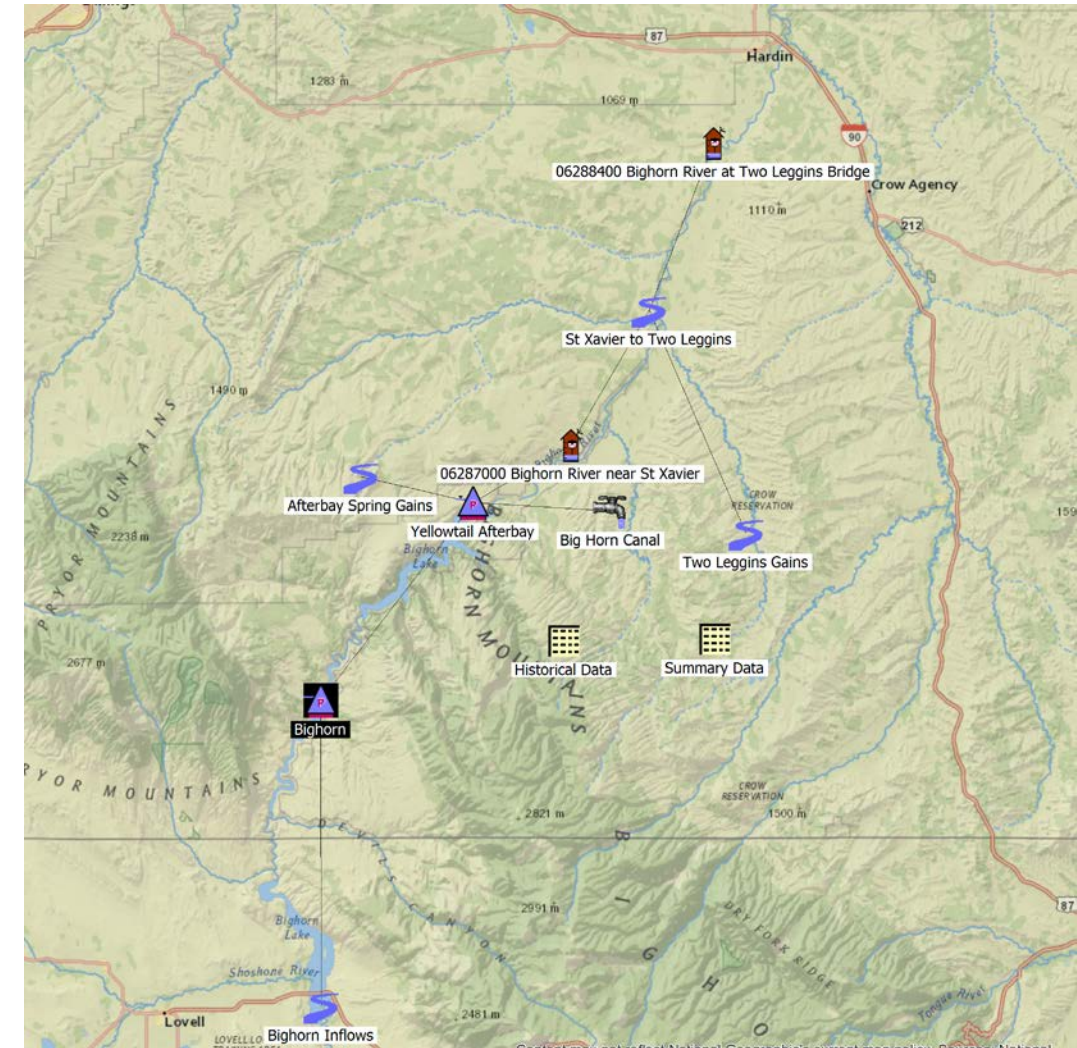


Statistical Review Draft Conclusions

- Significant differences between periods for inflows, pool elevations, hydropower generation, and releases.
- Post-2010:
 - Anticipated low-flow benefits were realized
 - Flows >6000 cfs occurred with much greater frequency
 - Flood control releases and duration greater than expected by criteria report
 - Pool elevations were higher than anticipated by criteria report
- Statistical review cannot isolate cause of differences

General RiverWare modeling

- RiverWare models allow for comparison of different operating criteria over the same hydrologic conditions
- RiverWare models represent:
 - Basin physical characteristics: Reservoirs, hydropower, canals, etc.
 - Water supply (inflows)
 - Demand: diversions, evaporation, water rights, instream flows, etc.
 - Operating criteria
 - Daily timestep



Modeling experiments:

- *Were the anticipated benefits of the 2010 Operating Criteria realized?*
- *Where the actual operations did not meet expected benefits, explain the differences.*

Study goals	Compare	Keep Constant	Time Period
Determine if benefits were realized/Isolate impacts of operational criteria	2010 Operating Criteria to 2000 SOP	perfect forecasts	1967-2017
Isolate impacts of forecasting	perfect forecasts to historical (Reclamation) forecasts	2010 Operating Criteria	1990-2017
Isolate impacts of operators	2010 Operating Criteria to historical observations	historical forecasts	2010-2017
Isolate hydrologic impacts	2010-2017 to 1967-1992 and 1993-2009	2010 Operating Criteria with perfect forecasts	1967-2017

Next Steps

- **Finalize draft model comparisons**
- **Explore potential improvements to 2010 Operating Criteria**
- **Draft Report**
- **Technical Working Group Meeting #4**
- **Final Draft Report**
- **Bighorn Users Group Fall Meeting**