

2020 FIRO Workshop Questions

Session 2

Questions answered by

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4) How will Lake Sonoma PVA differ from Mendo PVA?

Answer:

The Lake Sonoma PVA will likely be more streamlined than the Lake Mendocino PVA as the general approach for establishing preliminary viability has been refined. Still, the host of considerations must be collaboratively developed and the basic modeling and demonstration of benefits must be completed.

6) Jay, what level of forecast confidence would Sonoma Water and USACE need to utilize the full EFO model? It seems to have passed a lot of the metrics in the HEMP and is certainly most beneficial to water supply and fisheries.

Answer:

It's more than just forecast confidence. The issue for the USACE is that the full EFO model has the potential to significantly limit the flexibility to deal with storm events and situations not previously experienced. While we can estimate performance for hindcast events scaled to 200 or even 500-year return frequencies, uncertainty remains. If an extremely robust testing methodology were developed that showed the USACE would safely and effectively operate with the full EFO model, I believe they would accept it. So, it's really a combination of forecast skill and the ability to robustly demonstrate effective flood risk management operations.

8) Would there be any benefit to Oroville/New Bullards Bar FIRO efforts to involve Airborne Snow Observatory (ASO) efforts as well?

Answer:

The Yuba-Feather FIRO effort is focused on improving short-term (5-7 day) flood risk management objectives. The ASO effort is better suited for improving seasonal water supply predictions. Nonetheless, the current seasonal water supply situation does impact short-term flood risk management decisions associated with releases in advance of forecast flood events. Still, more investigation would be needed to understand if the incremental benefits of ASO during mid-winter would be large enough to affect pre-release decisions.

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Question also answered by

John Leahigh
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SWP Water Operations - California Department of Water Resources

Yes, I believe there could be benefits from ASO, but not on the timeframe being considered for the Yuba-Feather FIRO program as it is currently focused. The ASO is an aid in more of a seasonal time frame that shows promise to improve monthly runoff forecasting, which would improve water supply management.

9) Sonoma Water found the EFO approach to be less effective at fulfilling other management objectives (recreation, fish, power). Any thoughts on why, given that it performed well for dam safety and water supply?

Answer:

Recreation benefits were measured by access to the Bushay Campground which is cut off above elevation 750'. The EFO model kept the pool higher than the other alternatives and resulted in shorter campground season. Other recreation metrics such as fishing or day use were not measured. These were, however, measured in an economics benefits study which will become available by the end of the calendar year.

Power production was lower for the EFO model because of current WCM rules that stop power production above a specific reservoir elevation. The rule is not based on the safety or efficiency of power production but rather the priority of drafting the reservoir back down to the top of conservation. This rule doesn't make sense in the EFO paradigm and because the EFO model retained higher reservoir levels, generation was curtailed more often. If the rule were removed, then the EFO model would likely have the highest generation profile.

Environmental (fisheries) metrics were the best for the EFO model. It was dam safety, as measured by the frequency of water elevations on the un-armored portion of Coyote Valley Dam above 758.8' that performed less well. Since the EFO model resulted in higher reservoir levels, it had the most unfavorable rating on this metric. Armoring (e.g. riprapping) would solve this issue.