Aquatics 2021 60 Day Meetings



**Affordable Water, Sustainably Managed**

Agenda

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| Our Core Values – Safety, Trust and Integrity, Respect for Local Communities, Environmental Stewardship, Shared Responsibility and Shared Benefits, Accountability and Transparency, Proactive Innovation, Diversity and InclusivityOur Commitment – To live up to these values in everything we do |
| Meeting Information: |
| Date: | July 28, 2021 | Location: | Microsoft Teams use link in inviteOr call in (audio only) (833) 255-2803,,855752524#  |
| **Start Time:** | 9:00 a.m. | Finish Time: | 12:30 a.m. |
| Purpose: | Sites Project and CDFW 60 Day Meetings  |
| Meeting Invitees: |
| Kristal Davis-Fadtke, CDFWKen Kundargi, CDFWJonathan Williams, CDFWNick Bauer, CDFWAndrew Huneycutt, CDFWMatt Johnson, CDFWApril Hennessy, CDFWCrystal Rigby, CDFW | Carrol Wallen, CDFWRobert Sherrick, CDFWMohammed Anwar, CDFW Felipe La Luz, CDFWZachary Kearns, CDFWMarin Greenwood, ICF Jim Lecky, ICF Ali Forsythe, Sites Authority | Chris Fitzer, ESASteve Micko, JacobsRob Leaf, JacobsMike Hendrick, ICFMonique Briard, ICFJason Hassrick, ICFErin Heydinger, Sites IntegrationJohn Spranza, Sites Integration |
| Agenda: |
| Discussion Topic | Topic Leader | Time Allotted |
| * 1. Introductions and Objectives
 | Ali | 5 min |
| * 1. Salmonids
		1. Floodplain inundation
		2. Flow-survival
		3. Reservoir releases – temperature
 |  |  |
| * 1. Sturgeon
 |  |  |
| * 1. Native Minnows
 |  |  |
| * 1. Delta Smelt
 |  |  |
| * 1. Open Topic Discussion
 | Group |  |
| * 1. Action Items and Adjourn
 | John Spranza | 5 min |
| Action Items  |

1. Authority to review big notch EIR minimum flows and depth for adult passage (salmonids and sturgeon) information.
2. Michael to provide specific documents or references that DWR used to estimate entrainment effect at Fremont Weir. The team will then review these (and Pope et al. 2021) and identify when fish are present (flow magnitude and timing relationships) to estimate potential project-related entrainment effect at Freemont Weir and back up LTS determination.

Jim spoke with Mike P about additional papers as well as the Pope et al paper to address items 1 & 2. To be discussed further during Workshop #2.

1. Erica to send recent Wallace weir fall run passage data to authority for use in Authority analysis.
* Complete- Sent by Jonathan. ICF to review and contact CFDW week of 8/2 if needed (Jason will review files sent by John 8/9 to discuss with CDFW during the Workshop)
1. Steve and ICF to see if daily hydrograph analysis at Fremont Weir is possible using the information from 1 and 2 above as well as more recent Knights Landing screw trap data. (Jim)
2. Pulse Protection during March – May have very few modeled protection events, Steve to review modeling and circle back with team.
* Flow-based triggers for Pulse Flow Protection do not align well with fish pulses – aquatic team to review. (Marin – needs CDFW review of app 11P; correlates with #7; BDO comments and responses do not change the fundamentals so the version they are reviewing is okay)
1. Jonathan will look into and report back to the team on potential mitigation for exchange-related effects that could occur outside of the time window when Sites is diverting.
2. Department to review Appendix 11P to better understand analytical approaches used for discussion in next meeting. (Marin - need CDFW to review and provide what adjustments may be needed)
3. Authority to review how the proposed exchanges and potential effects are identified in the analysis and report back at next discussion.
* Jacobs and ICF to discuss week of 8/2 for report back to Authority prior to week of 8/9

Mike and Steve’ response:

* The effects of the exchange operation are considered in the quantitative, operations model-based effects analysis.
* The CalSim II model assumes Oroville and Shasta exchanges in all modeled alternatives.
* The assumptions for these operations are documented in Appendix 5A Attachment 1, Model Assumptions.
* As several additional quantitative analyses (e.g. Sacramento River temperature, SALMOD, temperature-based early life stage mortality of WRCS, IOS, OBAN, WUA, floodplain habitat, etc.) rely upon CalSim II outputs, the exchange operations are already considered in the effects analyses.
* According to the effects analysis, reductions in Sacramento River flow upstream of Knights Landing in Apr – Jun does not result in significant impacts.
1. Authority to investigate including a temperature monitoring plan and corrective measures into the project. Pre- and Post-project monitoring of release temperature into toe drain/Yolo would be considered.
* ICF to contact CDFW and discuss week of 8/2

Marin: Related to this, new discussion was added for temperature and DO effects on delta smelt from reservoir releases.

Jason spoke with April and received memos on smelt effects analysis. 3 points were discussed:

1. Monitor existing temperatures in the Yolo Bypass. Pushing hot water sitting in the Bypass down to Cache Slough may have unintended consequences for delta smelt.
2. Monitor water temperatures being released from Sites Reservoir for the same reason.
3. Consider shifting the time window of releases to earlier in the year to when the Yolo would have been flooded under more natural conditions to make it easier to release cooler water. However, moving that window earlier may create temperature management concerns that would also extend to salmonids.

Recommendation is to collectively figure out what kind of temperature threshold to use, what monitoring is needed to understand temperatures already in Yolo Bypass that we may not want to push down to Cache Slough, and whether Sites could release water earlier in the year without impact to salmon.

1. CDFW and ICF to work on identifying temperature thresholds to use for corrective measures in #9.
* ICF to contact CDFW and discuss week of 8/2 (same as #9)
1. Sophie to look into velocity effects on splittail and identify/acknowledge uncertainty around effect.
* ICF to contact CDFW and discuss week of 8/2

Sophie coordinated with Michael P and provided him with the Yolo Bypass maps that Steve Miko sent showing inundated areas of the bypass with suitable velocities (<1.5 fps) and depths (<1 m). The blue is suitable and the red is unsuitable.

* Attached pdf presents maps of Yolo Bypass when there is 15,000 cfs of spill over Fremont Weir.
* On the left-hand side, inundated area is represented with a red and blue layer. Red indicates area that exceeds the velocity criterion; blue indicates area that meets the velocity criterion.
* On the right-hand side, inundated area is represented with a red and blue layer. Red indicates area that exceeds the depth criterion; blue indicates area that meets the depth criterion.
* Through visual observation, the depth criterion is much more restrictive than the velocity criterion.
* Additionally, across the vast majority of the spatial domain, area that does not meet the depth criterion overlaps with area that does not meet the velocity criterion
* ICF to develop better description of “very similar” means in our OMR effect analysis and clarify if there are years when OMR would be substantially more negative with project.

Marin: Please see, for example, Figures 5B3-6-9 through 5B3-6-14 in Appendix 5B. “Very similar” in this case would generally mean within tens or low hundreds of cfs. The plots show that there are no incidences of substantially more negative OMR flows with the project, and the existing operational criteria, etc., for south Delta export facilities would not be changed.

1. Felipe to review appendix 5B (I think) to review Delta modeling. (Marin to develop exceedance plots if needed)
2. April to send longfin paper that discusses X2 and food/mysids.

Jason spoke with April about papers and analysis.

Marin: Added regressions to delta smelt and longfin smelt impact analyses for Delta outflow vs. density of zooplankton (*E. affinis*, *P. forbesi*, and *N. mercedis*) per Hennessy and Burris (2017) paper provided by April.

ICF to discuss the variability around table 11-56 in document and report back.

Marin: Text was added near Table 11-56: “The broad 95% prediction intervals indicate that the very small (1%) estimated mean difference in density of E. affinis as a result of operations-related changes in Delta outflow under the alternatives compared to the NAA would be unlikely to be statistically detectable given the estimated variability in the underlying relationship.” The other main examples (longfin smelt abundance analyses) already included similar type of discussion.

1. Group to follow up on the 11-15 acres of mitigation once Appendix 11F has been reviewed.
* ICF to contact CDFW and discuss week of 8/2 if possible (Marin – once we hear from CDFW on their review)