Sites Project Fishery Group Discussion No. 3

October 29, 2021

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Agenda

1. Goals and Objectives
2. Group Norms
3. Update Diversion Criteria
4. Updated Salmonid Effects
5. Updated Smelt Effects
6. Updated Schedule
7. Adjourn

Group Norms

- Encourage everyone to be on video
- Mute yourself when others are speaking
- Respectful, professional dialogue
- Ask questions throughout, lets have a dialogue
  - Let the speaker finish their point
  - Use the raise your hand function in Teams if needed

Updated Diversion Criteria

John Spranza, Jim Lecky and Steve Micko

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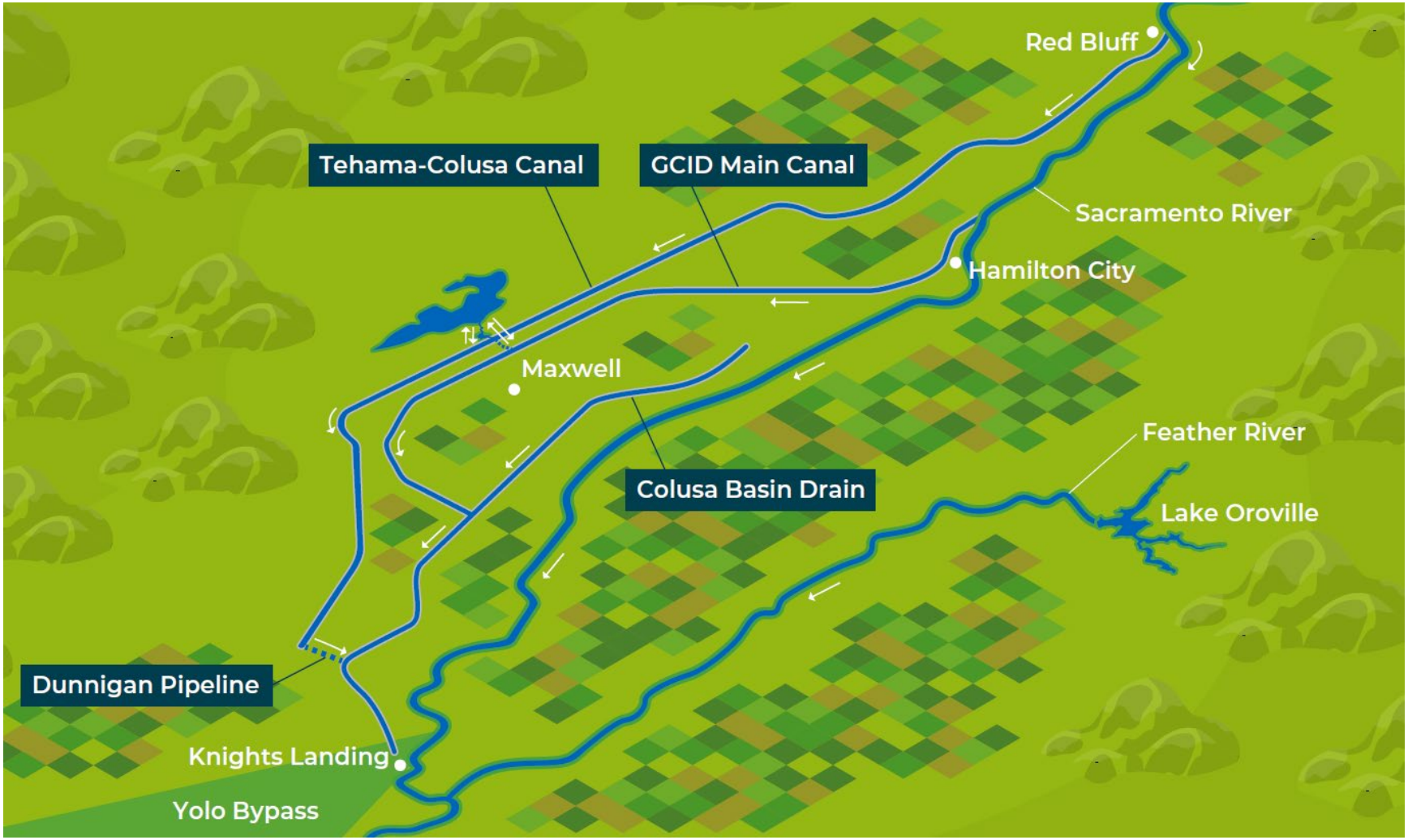
Project Water Operations



Operations Project Description

- Operational Criteria
  - Junior diverter – Diverting after all senior water rights and water quality and flow requirement are met
  - Diverting during “excess conditions” (as determined by Reclamation and DWR)
  - Diversion locations in priority:
    1. Red Bluff Pumping Plant into the Tehama-Colusa Canal
       - Up to 2,100 cfs diversion for Sites (plus losses), subject to other uses
    2. Hamilton City Pump Station into the GCID Main Canal
       - Up to 1,800 cfs diversion for Sites (plus losses), subject to other uses
  - Diversions when Sacramento River not fully appropriated (September 1 to June 15)

Project Diversion Criteria – Pre-October

Criteria	Purpose	Description
Bend Bridge Pulse Protection	Survival of emigrating juvenile salmon	• Each pulse protected • "Reset" to differentiate between pulses
Scaled Diversions	Ensure proper screen function	• Rate of diversion controlled by screen design
Wilkins Slough Bypass Flow	Facilitate salmonid smolt outmigration	• 8,000 cfs in April and May; • 5,000 cfs all other times
Fremont Weir Notch Criteria	Protect project objectives	• First 600 cfs held to 1% change • 600 – 6,000 cfs held within 10% • No restriction above 6,000 cfs
Net Delta Outflow Index (NDOI)	Comply with existing regulations	• Operations consistent with 2019 BO, CA SWP ITP
Delta Water Quality	Comply with existing regulations	• Operations consistent with Delta water quality requirements

*Diversions when Sacramento River not fully appropriated (September 1 to June 15)

Post-October Changes

- Continuing evolution of our understanding in the flow survival relationship in salmonids
- There isn't a good understanding that relates flow to survival through the rearing phase of the life cycle
  - Many are based on a comparison of smolt survival in wet years and dry years
  - Fish survive better in wet years, however, the application of these studies to within year operational decisions is limited
- Recent literature on the importance of variability in the hydrograph, particularly in drier year, in survival of emigrating smolts (Michel et al. 2021, Hassrick et al. in prep)
  - Combined with Agency discussions prompted a refinement of our analysis with a diversion criteria mitigation measure for seasonal bypass flows at Wilkins Slough

Updated Diversion Criteria in 2021 RDEIR/SDEIS

- Sacramento River at Wilkins Slough bypass flow requirements have been updated *AS A MITIGATION MEASURE*:

Prior Requirement	Revised Requirement
• 8,000 cfs in April – May • 5,000 cfs in all other months	• 8,000 cfs in April – May • Mitigation Measure = 10,700 cfs in March – May • 5,000 cfs in all other months

- Modeling framework and baseline model are same as prior meetings
  - Baseline: 2020 Benchmark CalSim II Model
  - Modeling framework: CalSim II results inform secondary models (e.g. water temperature)

Updated 2021 EIR/EIS Salmonid Effects Overview

Mike Hendrick

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Aquatic Biological Resources – Overview

- Evaluates 20 Impacts
  - Impact FISH-1: Construction Effects
  - Impact FISH-2 through -19: Operation effects on listed species and special status species of concern, including Killer Whales
  - Impact FISH-20: Maintenance Effects
- Impact assessments rely primarily on modeled hydrologic changes in SWP and CVP operations that would occur as a result of Project operations. Depending on the species and location, the specifics of the assessment methodologies differ.
- Today's presentation will focus on changes / revisions since our last discussion

Salmon Operations and Construction Effects Summary

- Impact FISH-1: Construction Effects on Special Status Fish
- Impact FISH-2: Operations Effects on Winter-Run
- Impact FISH-3: Operations Effects on Spring-Run
- Impact FISH-4: Operations Effects on Fall-Run and Late Fall-Run
- Impact FISH-5: Operations Effects on Steelhead

Impact FISH-1: Construction Effects on Special Status Fish

- Construction would result in:
  - Ground-disturbance activities
  - Use of heavy equipment and hazardous materials
  - In-water construction (including pile driving)
  - Stream diversion and dewatering
  - Removal of riparian and stream-side vegetation (including vegetation supporting SRA cover)
  - Filling of Sites Reservoir.
  - Alt 2 includes construction of the energy dissipation structure for the Sacramento River discharge
- These activities would result in temporary impacts on special-status fish during construction activities. However, these temporary and permanent impacts would not affect any ESA-listed fish species. Exception is Alternative 2 and the construction of the energy dissipation structure for the Sacramento River discharge.

Impact FISH-1: Construction Effects on Special Status Fish (Continued)

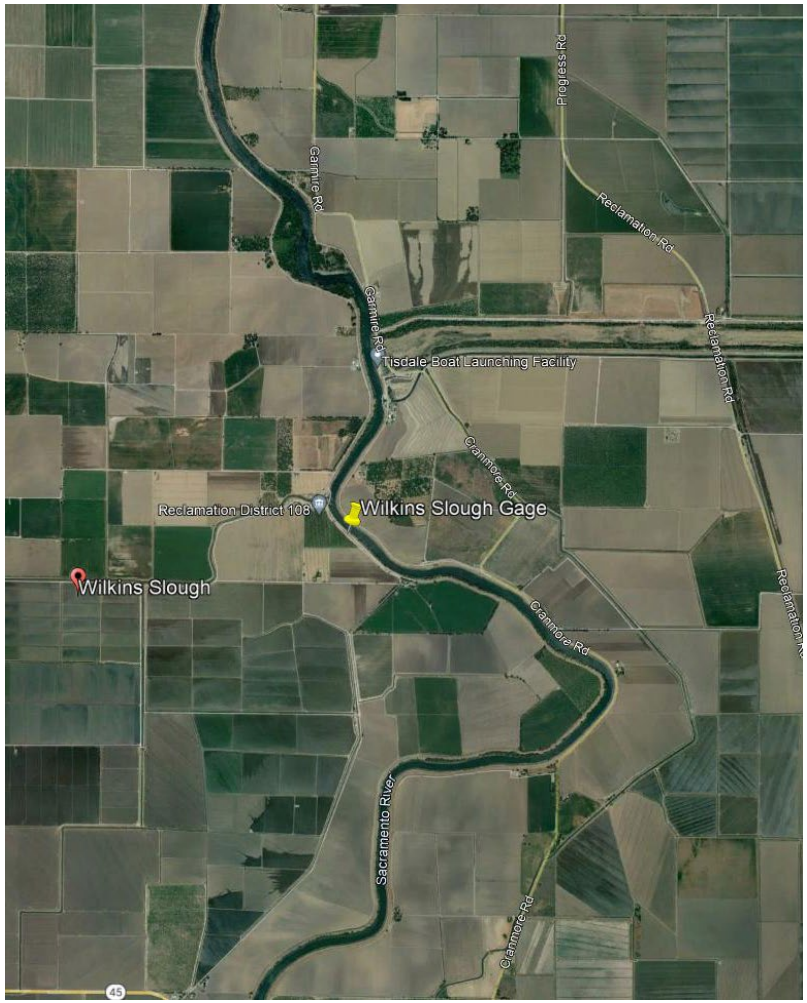
- Construction of Alternative 1, 2 or 3 would be less than significant with mitigation and the inclusion of BMPs.
- Mitigation Measures:
  - Will compensate for the temporary and permanent loss of riparian habitat, including SRA cover.
  - Will compensate for permanent impacts on wetlands, including riparian and freshwater marsh.
  - Will compensate for temporary and permanent impacts on state or federally protected non-wetland waters by creating or acquiring and permanently protecting suitable open-water habitat
  - Conduct Surveys for Sensitive Natural Communities and Oak Woodlands in the Project Area Prior to Construction Activities
- Best Management Practices (BMPs) would be implemented during construction. Examples include Stormwater Pollution Prevention Plan (SWPPP), and Requirements of Central Valley Regional Water Quality Control Board

Impact FISH-2: Operations Effects on Winter-Run, Analysis Completed

- Fish Screen Entrainment and Impingement
- Stranding Behind Screens
- Predation at Intakes
- Temperature Effects
- Redd Dewatering and Redd Scour Entombment
- Habitat Weighted Usable Area (spawning, rearing)
- Juvenile Stranding
- Salmon Mortality and Production (via SALMOD)
- Floodplain Inundation and Access
- Delta Effects (Through Delta Survival, Juvenile Rearing, South Delta Entrainment)
- **NOTE: THE ABOVE ARE RELEVANT TO ALL SALMONIDS ANALYZED**

Impact FISH-2: Operations Effects on Winter-Run, Impact Conclusion and Mitigation

- With the inclusion of Mitigation Measure FISH-2.1, operation impacts would be less than significant with mitigation.
- **Mitigation Measure FISH-2.1: Wilkins Slough Flow Protection Criteria:** The Authority will not divert water from the Sacramento River for Project purposes during March through May of all water year types if the flows in the Sacramento River are below 10,700 cfs as measured at Wilkins Slough or if Project diversions would result in flows in the Sacramento River below 10,700 cfs as measured at Wilkins Slough.



Impact FISH-3: Operations Effects on Spring-Run, Impact Conclusion and Mitigation

- With the inclusion of Mitigation Measure FISH-2.1 below, operation impacts would be less than significant with mitigation.
- **Mitigation Measure FISH-2.1: Wilkins Slough Flow Protection Criteria:** The Authority will not divert water from the Sacramento River for Project purposes during March through May of all water year types if the flows in the Sacramento River are below 10,700 cfs as measured at Wilkins Slough or if Project diversions would result in flows in the Sacramento River below 10,700 cfs as measured at Wilkins Slough.

Impact FISH-4, FISH-5, FISH-6: Operations Effects on Spring-Run, Fall-Run/Late Fall-Run, Steelhead, Impact Conclusion and Mitigation

- Similar analysis, impact conclusion, and Mitigation Measure result in operation impacts of less than significant with mitigation with the inclusion of **Mitigation Measure FISH-2.1.**
- **Mitigation Measure FISH-2.1: Wilkins Slough Flow Protection Criteria:** The Authority will not divert water from the Sacramento River for Project purposes during March through May of all water year types if the flows in the Sacramento River are below 10,700 cfs as measured at Wilkins Slough or if Project diversions would result in flows in the Sacramento River below 10,700 cfs as measured at Wilkins Slough.

Updated 2021 EIR/EIS Smelt Effects Overview

Mike Hendrick

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Smelt Operations Effects Summary

- Impact FISH-8: Operations Effects on Delta Smelt
- Impact FISH-9: Operations Effects on Longfin Smelt

Impact FISH-8: Operations Effects on Delta Smelt, Conclusion Excerpts

- No increase in south Delta entrainment risk because south Delta exports of Sites Reservoir water do not occur during times of the year when delta smelt are susceptible to entrainment.
- Small reductions in suspended sediment to the Delta. These are addressed by the Sediment Technical Studies Plan and Adaptive Management for Sacramento River
- The analyses of flow-related effects (differences in Delta outflow/X2) suggested the potential for small negative effects under the Alternatives
- Impacts on delta smelt would **be significant due** to uncertainty associated with Dissolved Oxygen (DO) and temperature effects from Sites Reservoir releases. **HOWEVER…**

Impact FISH-8: Operations Effects on Delta Smelt, Mitigation Measures

- **Mitigation Measure FISH-8.1** will reduce this significant impact by preventing detrimental DO and water temperature effects associated with moving Colusa Basin Drain (CBD) water through the Yolo Bypass.
- Existing DO and temperature levels suitable to delta smelt would be maintained and would not exceed recognized critical physiological thresholds through implementation of Mitigation Measure FISH-8.1; **therefore, impacts would be reduced to less than significant**.
- There is uncertainty in the potential for negative effects from Sites habitat flows redirecting CBD water relatively high in pesticides downstream to the lower Yolo Bypass where delta smelt occur. This potential effect would be addressed by **Mitigation Measure WQ-2.2**.

Impact FISH-9: Operations Effects on Longfin Smelt, Conclusion Excerpts

- No change from previous EIR/EIS version, however as a reminder ---
- Implementation of **Mitigation Measure FISH-9.1** would provide tidal habitat restoration mitigation. Tidal habitat restoration would expand the diversity, quantity, and quality of longfin smelt rearing and refuge habitat consistent with recent tidal habitat mitigation required for outflow impacts to the species. The mitigation requirement for each alternative varies between 11 and 15 acres.

Updated Schedule

John Spranza

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Permitting Schedule Milestones

- NEPA / CEQA
  - 60-day Public Review Period
  - CEQA Revised EIR release November 5, 2021
  - NEPA Subsequential EIS release November 12, 2021
  - Comment Period ends January 11, 2022
    - Analyses related to today's agenda are in Chapter 11 of the REIR/SEIS
- CDFW ITP
  - Submit construction in Dec 2021 and operations Mar 2022
- Revised Biological Assessment
  - Submittal to Reclamation late February/early March
- Water Right
  - Application complete in late January/early February

Open Topic Discussion

Thank you!


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