

# Sites Project Fishery Group Discussion

July 26, 2021



# Agenda

1. Introductions
2. Group Norms
3. General Review of Project
4. Salmonid Effects
5. Sturgeon Effects
6. Delta Smelt Effects
7. Schedule
8. Action Items and Adjourn

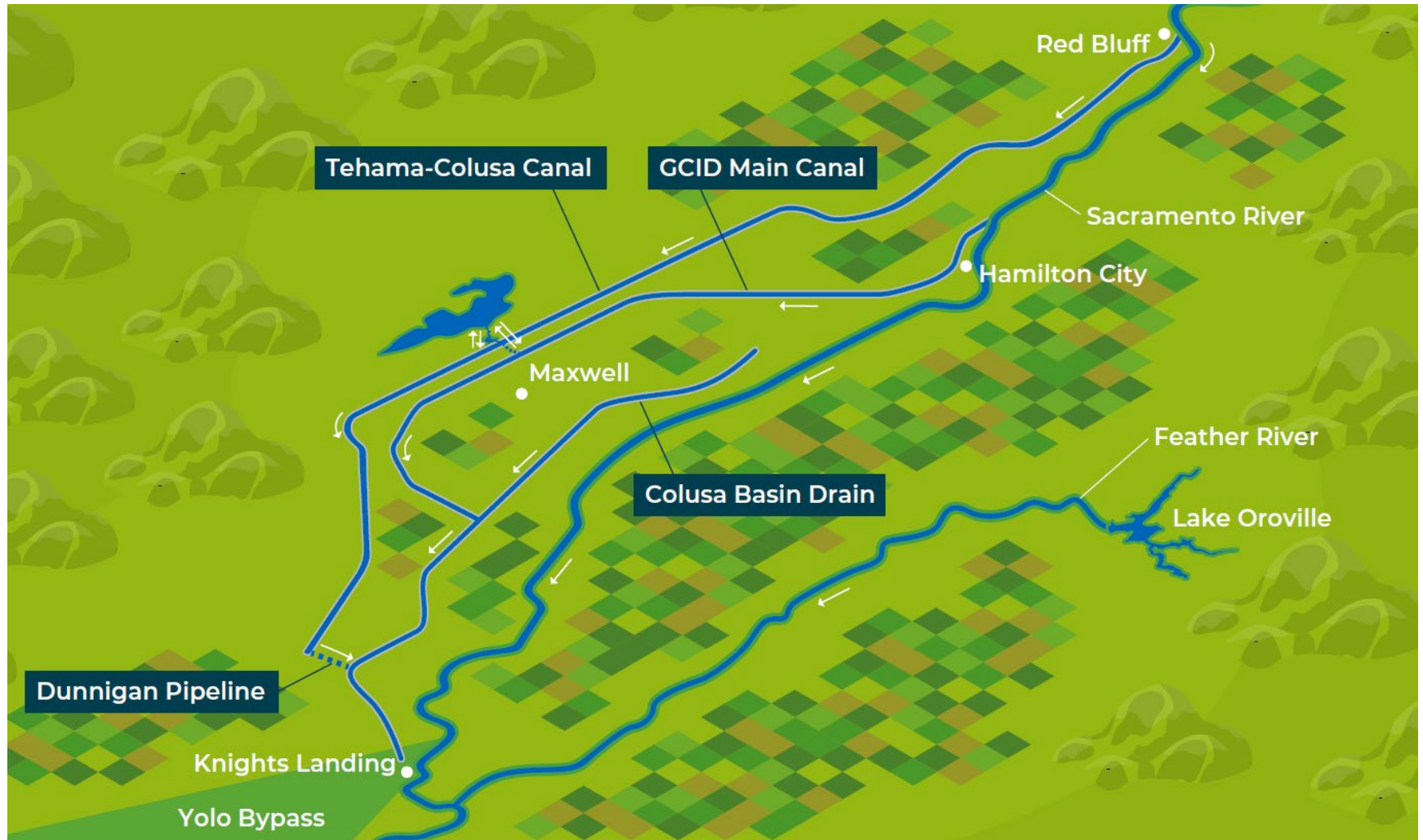


# Group Norms

- 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
- Topics for next meeting will be recorded and discussed at that meeting

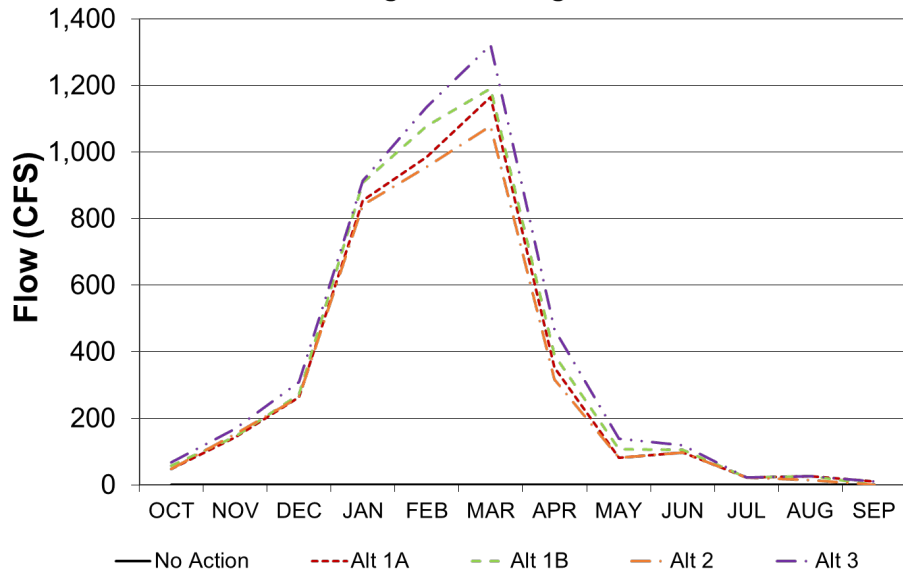
# Overview of Project Operations

# Project Water Operations

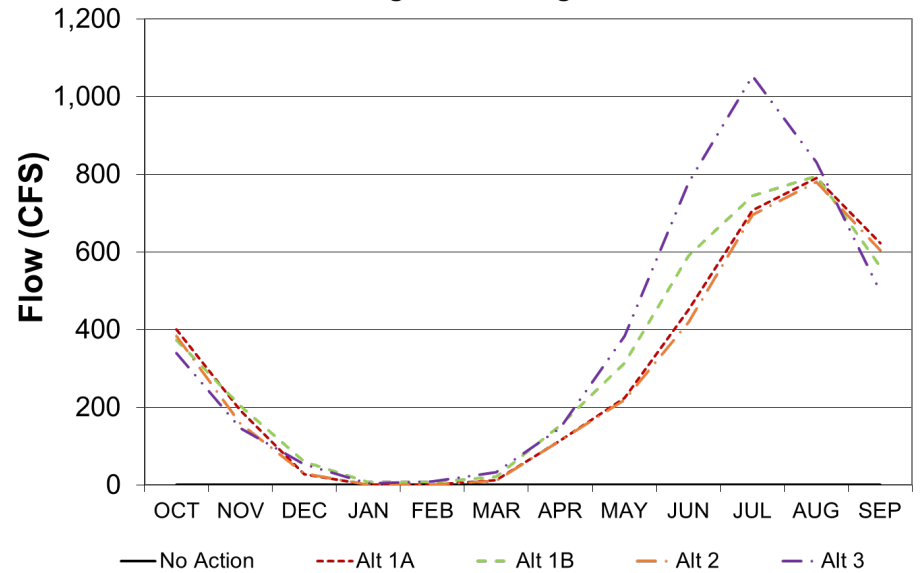


# Diversions and Releases

**Total Sites Diversion to Fill**  
Long-term Averages



**Total Sites Release**  
Long-term Averages



# Salmonid Effects Overview

# Aquatic Biological Resources – Overview

- Evaluates 20 Impacts
  - Impact FISH-1: Construction
  - 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.



# Aquatic Biological Resources – Species Evaluated

Listed Species	Other Species
Delta smelt, Longfin Smelt	California Bay Shrimp
Killer Whale	Starry Flounder, Northern Anchovy
Green Sturgeon	Pacific Lamprey, River Lamprey
Steelhead	Native Minnows
Fall-run/Late Fall-run Chinook	Striped Bass, Black Bass
Spring-run Chinook	American Shad, Threadfin Shad
Winter-run Chinook	White Sturgeon

# 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)

- Best Management Practices (BMPs) would be implemented during construction (examples include)
  - Stormwater Pollution Prevention Plan(s) (SWPPP)
  - Spill Prevention and Hazardous Materials Management / Accidental Spill Prevention, Containment, and Countermeasure Plans (SPCCPs)
  - Response Measures BMP
  - Requirements of Central Valley Regional Water Quality Control Board
  - In-water construction activities would be limited to allowable in-water work windows as part of the Construction BMPs
  - Underwater Sound Control, Abatement, and Monitoring Plan BMP

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

- Mitigation Measures
  - Will compensate for the 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
- Construction of Alternative 1, 2 or 3 would be less than significant with mitigation.

# 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)

# Impact FISH-2: Operations Effects on Winter-Run, Conclusion Excerpts

- Migration flow-survival effects from diversions have the potential to cause negative effects but would be limited by diversion criteria and a fish monitoring program capable of detecting a fish migratory response during the beginning of a precipitation-generated high flow event
- Mean monthly temperatures by water year type indicate that Alternatives 1, 2, and 3 and the NAA would be predominantly similar among during the period of presence of each life stage of winter-run Chinook salmon.
- Effects of proposed intakes on predation is limited. Effects of the diversions for Alternatives 1, 2, and 3 from the Red Bluff and Hamilton City intakes would be limited.
- Entrainment risk at Red Bluff and Hamilton City intakes would be expected to be similar between NAA and Alternatives 1, 2, and 3 for juvenile winter-run Chinook salmon.
- For winter-run Chinook salmon, operations impacts of Alternative 1, 2, or 3 would be less than significant.

# Impact FISH-3: Operations Effects on Spring-Run, Conclusion Excerpts

- Mean monthly temperatures by water year type indicate that Alternatives 1, 2, and 3 and the NAA would be similar during the period of presence of each life stage of spring-run Chinook salmon.
- Redd dewatering analysis for spring-run show moderate increases in redd dewatering for eggs spawned in September of Above Normal Water Years under Alternatives 1 and 3, and reductions in redd dewatering for eggs spawned in August of Above Normal Water Years under Alternative 3.
- Weighted Usable Area (WUA) analysis, indicate that Alternatives 1, 2, and 3 would have minor effects on rearing habitat for spring-run juveniles in the Sacramento River.
- SALMOD results show a minimal beneficial effect of each alternative on spring-run Chinook salmon mortality and potential production in the Sacramento River.
- WUA results indicate that Alternatives 1, 2, and 3 would lead to some moderate reductions of spawning habitat WUA during September and October, primarily under Alternative 3. However, overall Alternatives 1, 2, and 3 are expected to have no adverse effect on spring-run spawning in the Sacramento River.
- Operations impacts of Alternative 1, 2, or 3 would be less than significant.



# Sturgeon Effects Overview

# Sturgeon Operations Effects Summary

- Impact FISH-6: Operations Effects on Green Sturgeon
- Impact FISH-7: Operations Effects on White Sturgeon



# Impact FISH-6: Operations Effects on Green Sturgeon, Conclusion Excerpts

- Green sturgeon spawning habitat: Differences in mean flow between Alternatives are negligible. Similarly, for green sturgeon larvae rearing habitat in the Sacramento River, differences in mean monthly flows between Alternatives are minimal.
- Modeled results indicate that Alternatives would have a greater likelihood of having flows potentially low enough to create adverse passage conditions in the Sacramento River. This could potentially result in some delays in upstream migration; however, it is likely adults would hold and continue their migration and spawning after flow subsequently increased.
- Modeled results indicate that the Alternatives are not expected to have any substantial effect with regard to flow on spawning and egg incubation of green sturgeon in the Feather River.
- For the Feather River, modeling results indicate that Alternatives 1, 2, and 3 provide slightly improved Feather River flow conditions for upstream and downstream passage.
- In-Delta and upstream operations and their impacts associated with the Alternatives on green sturgeon and its spawning habitat would be negligible.
- Operations impacts of Alternative 1, 2, or 3 would be less than significant.

# Smelt Effects Overview

# Smelt Operations Effects Summary

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



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

- Entrainment risk under Alternatives 1, 2, and 3 would be similar to entrainment risk under the NAA.
- The analyses of flow-related effects (differences in Delta outflow/X2) suggested the potential for small negative effects under the Alternatives
- In order to get to a less than significant impact, mitigation would be required for the small, uncertain negative outflow-related effect of Alternatives 1, 2, and 3 in consideration of longfin smelt's CESA-listed status.
- 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.

# Schedule

# Schedule

- Late August 2021
  - Revised Draft EIR/Supplemental Draft EIS Released
- December 2021
  - Biological Assessment to Agencies
  - Submit State ITP Applications
- Spring 2022
  - Final EIR/EIS
- Spring 2023
  - All permits obtained
- Spring 2024 Construction Begins





# Action Items Review



**Thank you!**

