

CALIFORNIA DEPARTMENT OF WATER RESOURCES

SWP Habitat Restoration

California Water Commission, October 21, 2020



Catherine McCalvin, Office of Environmental Compliance

DWR-SWP Environmental Compliance



- Endangered Species Acts
- Current guiding documents
 - Biological Opinions (FESA)
 - Permit from CDFW (CESA)
- Elements of compliance
 - Minimization (e.g., operations)
 - Monitoring
 - Mitigation (e.g., restoration)
- DWR's Division of Environmental Services
- EcoRestore

Species of Concern

Species	Federal Status	State Status
Delta Smelt	Threatened	Threatened
Longfin Smelt	blank	Threatened
Sacramento River Winter-run Chinook Salmon	Endangered	Endangered
Central Valley Spring-run Chinook Salmon	Threatened	Threatened
North American Green Sturgeon	Threatened	
California Central Valley Steelhead	Threatened	
Southern Resident Killer Whale	Endangered	

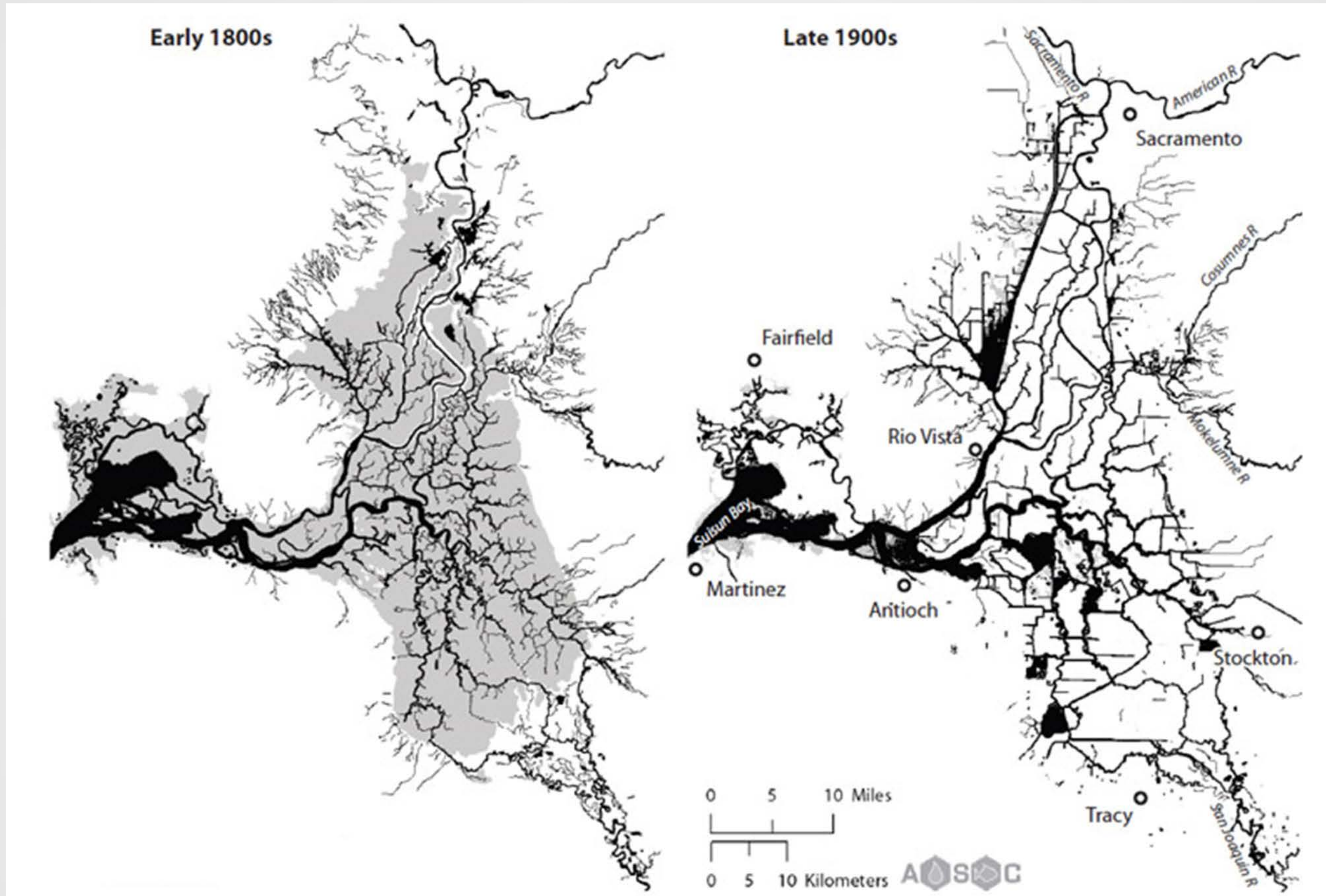


Restoration Requirements

- **Fish Restoration Program – tidal and floodplain habitat**
 - Restore 8,396.3 acres for Delta smelt
 - Restore 1,196.3 acres for longfin smelt
 - Restore functions and processes that promote export of nutrients and productivity to Delta food webs
 - Salmonid floodplain habitat
- **Yolo Bypass Program – floodplain habitat and passage**
 - Provide significantly increased acreage of seasonal floodplain salmonid rearing habitat in the lower Sacramento River basin.
 - Reduce migratory delays and loss of salmon, steelhead, and sturgeon at Fremont Weir and other structures in the Yolo Bypass.
- **Upper Sacramento Watershed Restoration (New)**
 - Fund \$20 Million for restoration over 10 years
 - Improved juvenile rearing habitat
 - Improved adult fish passage



Fish Restoration Program – Tidal Restoration



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Loss of Tidal Habitat

(Whipple et al. 2012: Sacramento-San Joaquin Delta Historical Ecology Investigation)

Fish Restoration Program - Tidal Restoration Projects

➤ Completed Construction (est. 1571 acres)

- Decker Island
- Winter Island
- Tule Red
- Yolo Flyway Farms

➤ Under construction (est. 1,870 acres)

- Wings Landing
- Lower Yolo Ranch

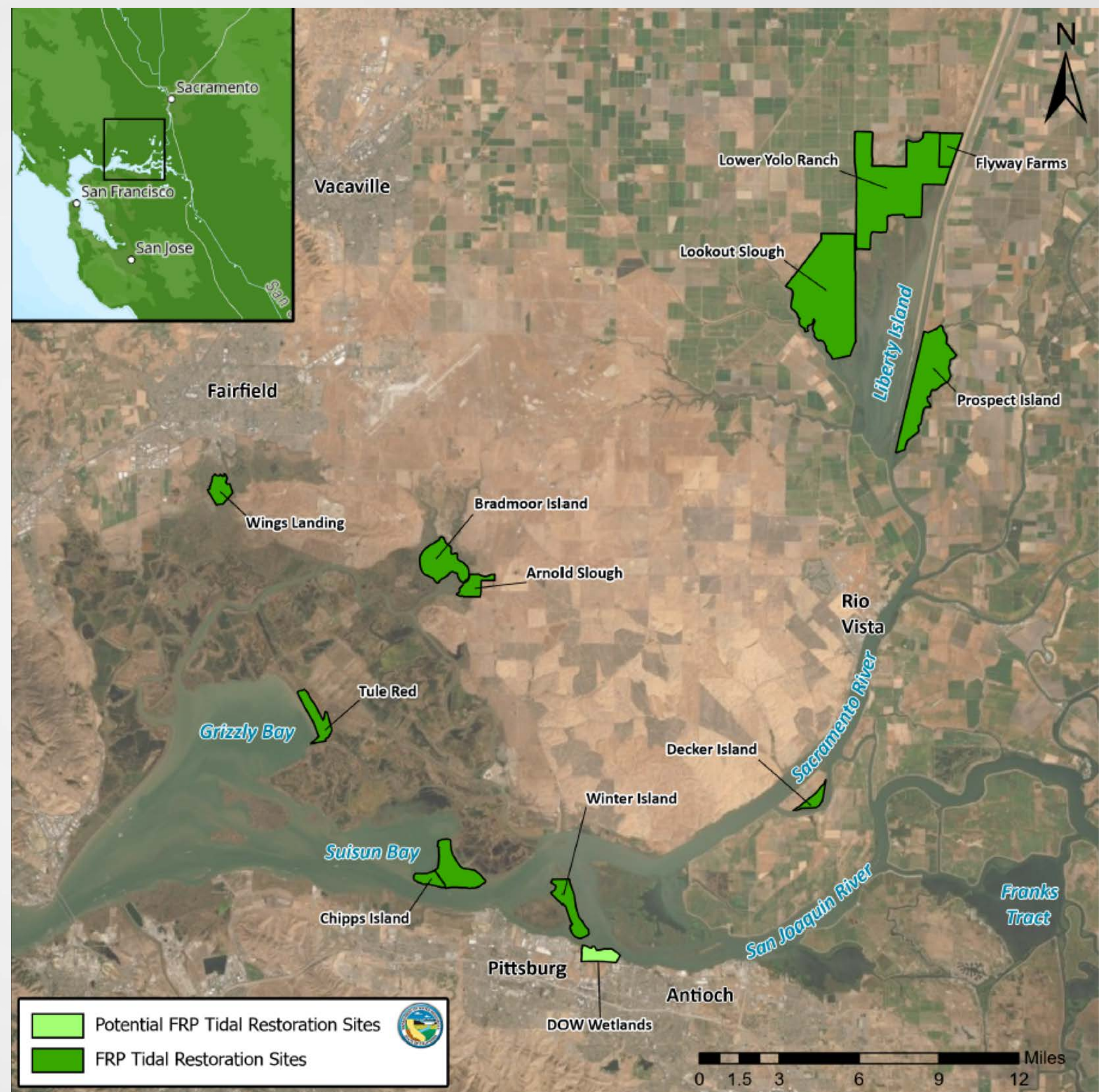
➤ Design and permitting (est. 5,981 acres)

- Arnold Slough
- Bradmoor Island
- Chipps Island
- Lookout Slough
- Prospect Island

➤ Estimated 9,422 acres total for Delta smelt



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Tidal Restoration – Additional Information

<https://water.ca.gov/Programs/Environmental-Services/Restoration-Mitigation-Compliance/Delta-Projects>

<https://water.ca.gov/Programs/Environmental-Services/Restoration-Mitigation-Compliance/Suisun-Projects>

<https://water.ca.gov/Programs/All-Programs/EcoRestore>



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Sacramento River

Colusa Basin Drain

Cache Creek

Flow

Putah Creek

Sacramento River

Yolo Bypass Restoration - Overview

- Restore floodplain fisheries rearing habitat
- Reduce migratory delays and loss of fish at Fremont Weir and other structures in the Yolo Bypass

Yolo Bypass Projects

Built & Operable

- Fremont Weir Adult Fish Passage Modification Project (2018)
- Wallace Weir Fish Rescue Facility Project (2017)
- Improved 2 agriculture crossings (2017)

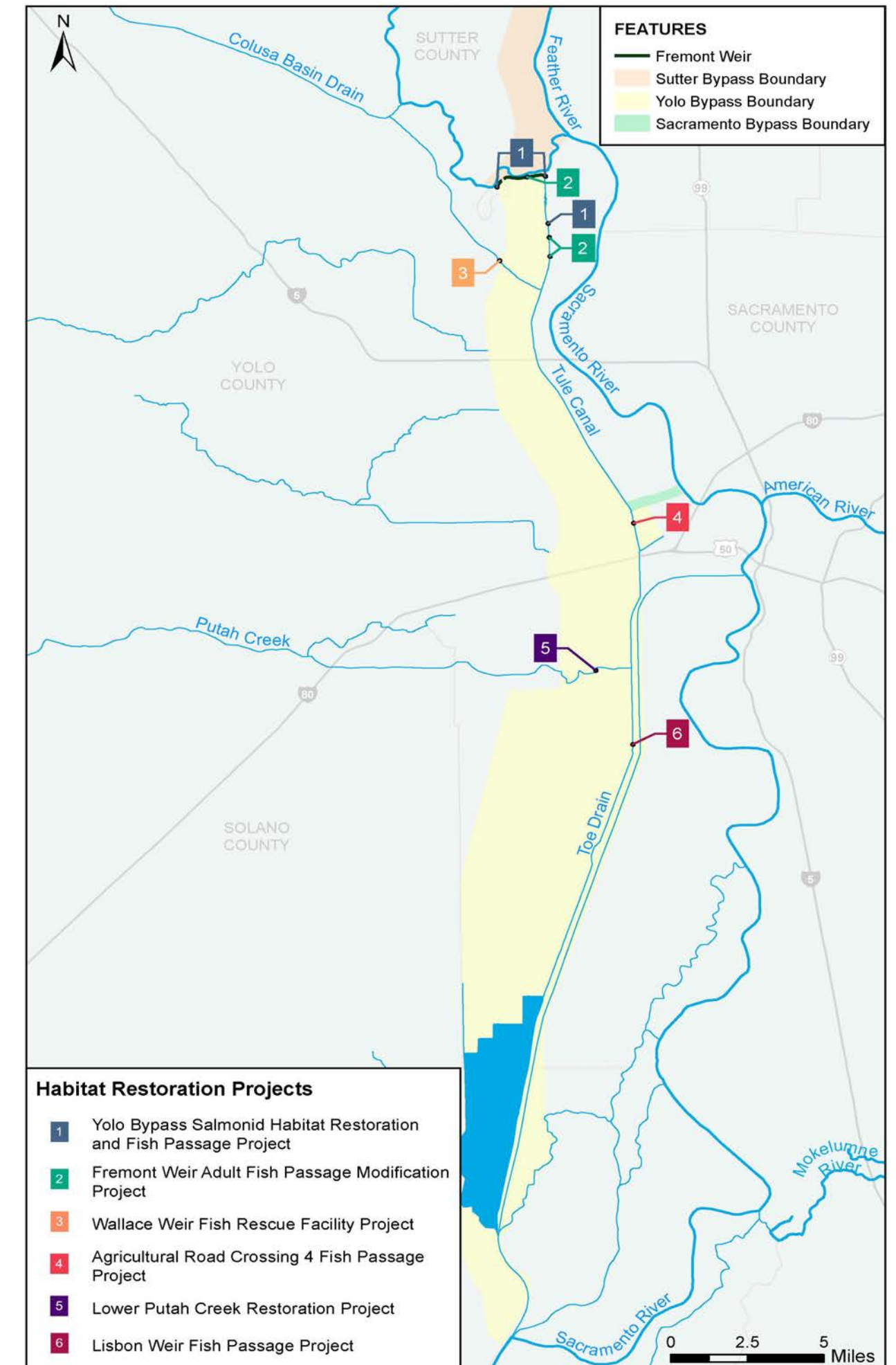
Planning & Design

- Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project (2021-2022)
- Agricultural Road Crossing #4 (2023)
- Lisbon Weir (2024)
- Putah Creek realignment (TBD)



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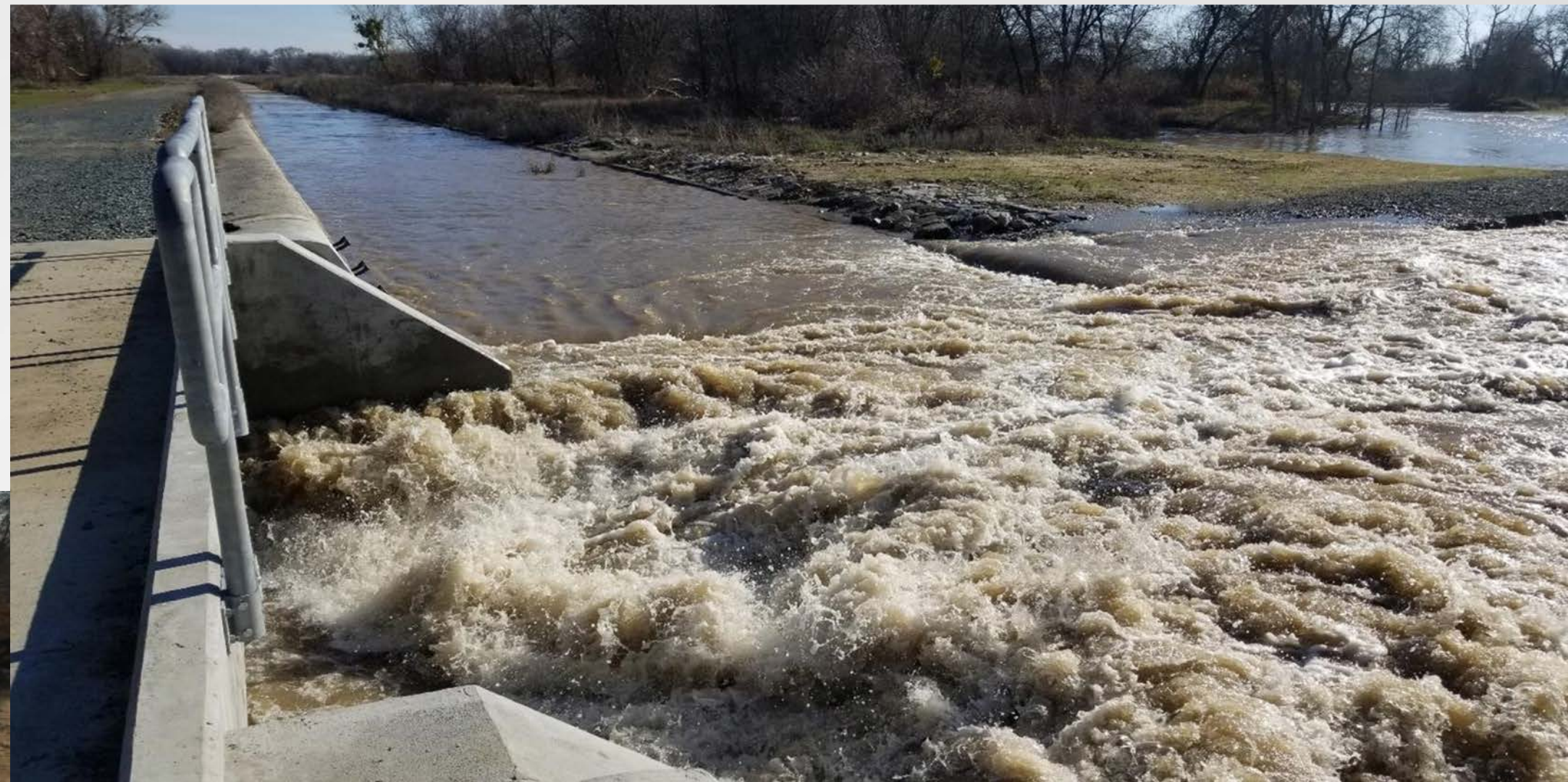
Yolo Bypass Habitat Restoration Program Projects



Freemont Weir Adult Fish Passage: Before



Freemont Weir Adult Fish Passage: After



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Ag Road Crossings: Before/After



Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project

Floodplain rearing habitat

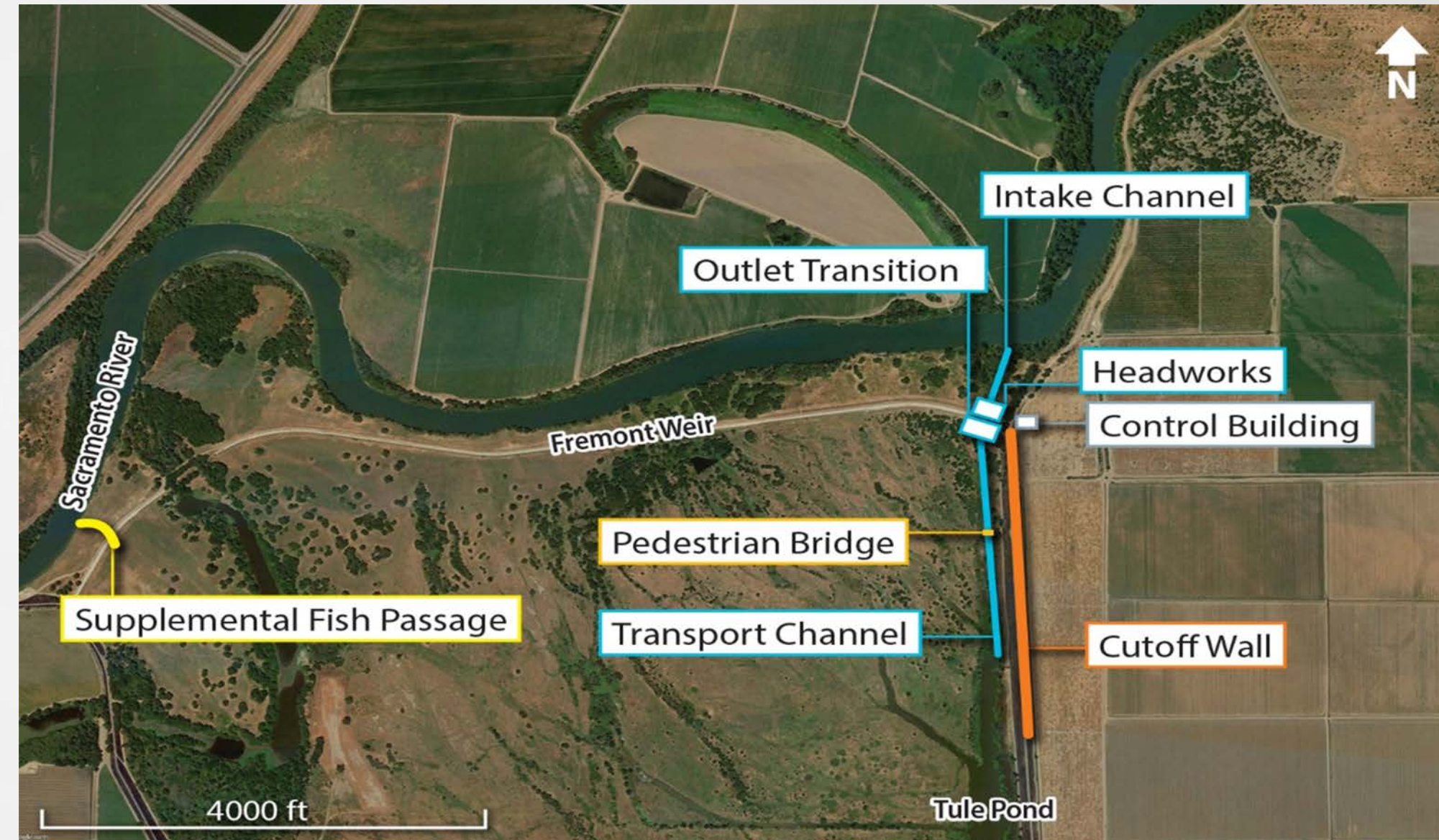
- Improve volitional access to and acreage of seasonal floodplain habitat through
- Reduce stranding and presence of migration barriers
- Increase aquatic primary and secondary biotic production to provide food through an ecosystem approach

Fish passage

- Improve connectivity within the Yolo Bypass
- Improve connectivity between the bypass and the Sacramento River (when water surface elevations allow)

Design/Operations

- East side notch
- Up to 6,000 cfs design flow
- Operates November 1-March 15



Yolo Bypass – Additional Information

<https://water.ca.gov/Programs/Environmental-Services/Restoration-Mitigation-Compliance/Yolo-Bypass-Projects>

<https://water.ca.gov/Programs/All-Programs/EcoRestore>



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Parting Thoughts

- Challenges
- Successes
- Lessons learned
- What's up next



Questions?

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