

CALIFORNIA DEPARTMENT OF WATER RESOURCES

SWP Habitat Restoration

California Water Commission, March 18, 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	Threatened	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	



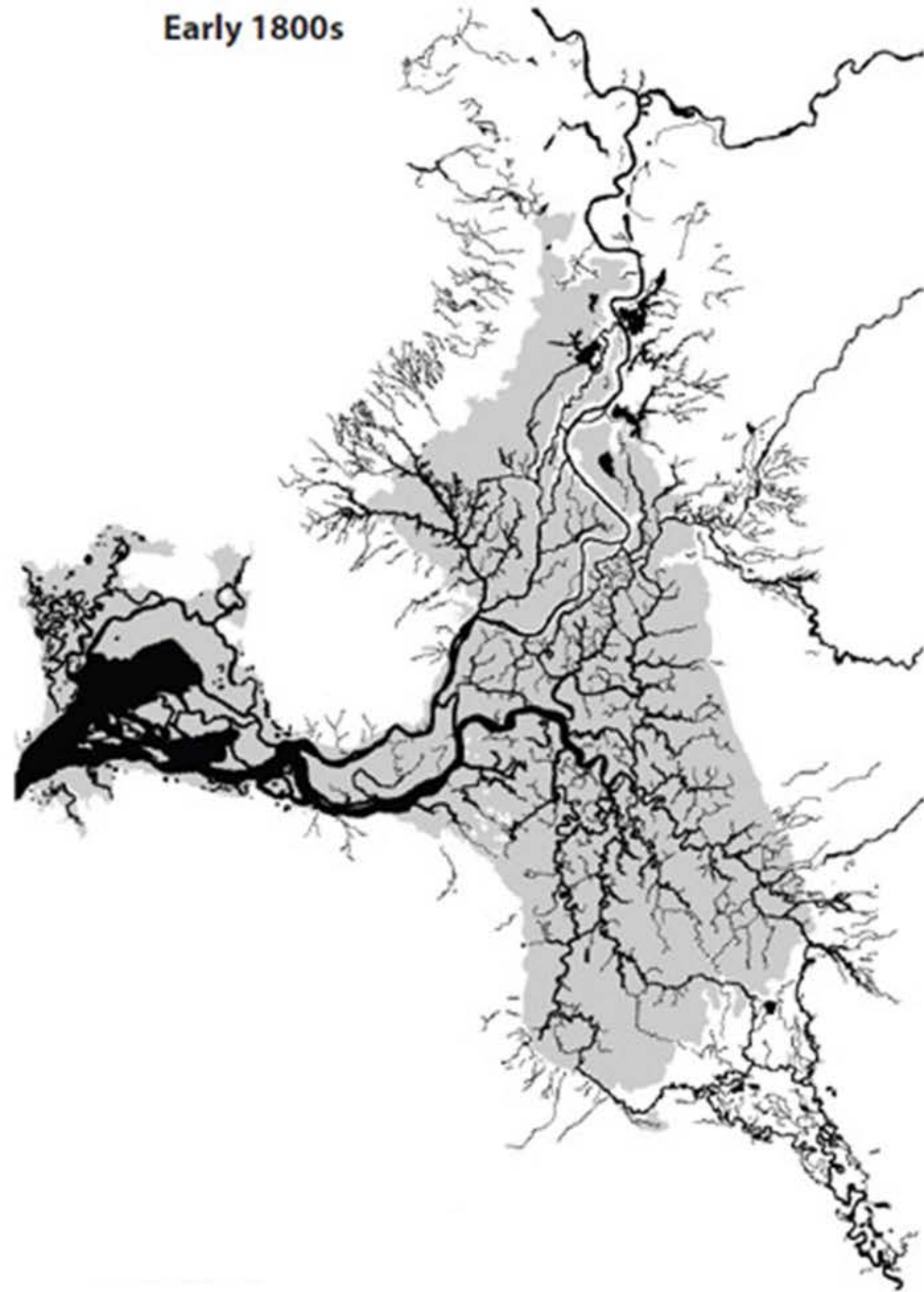
Restoration Requirements

- **Fish Restoration Program – tidal and floodplain habitat**
 - Restore 8,000 acres for Delta smelt
 - Restore 800 acres for longfin smelt
 - Restore functions and processes that promote export of nutrients and productivity to Delta food webs
 - Salmonid floodplain habitat

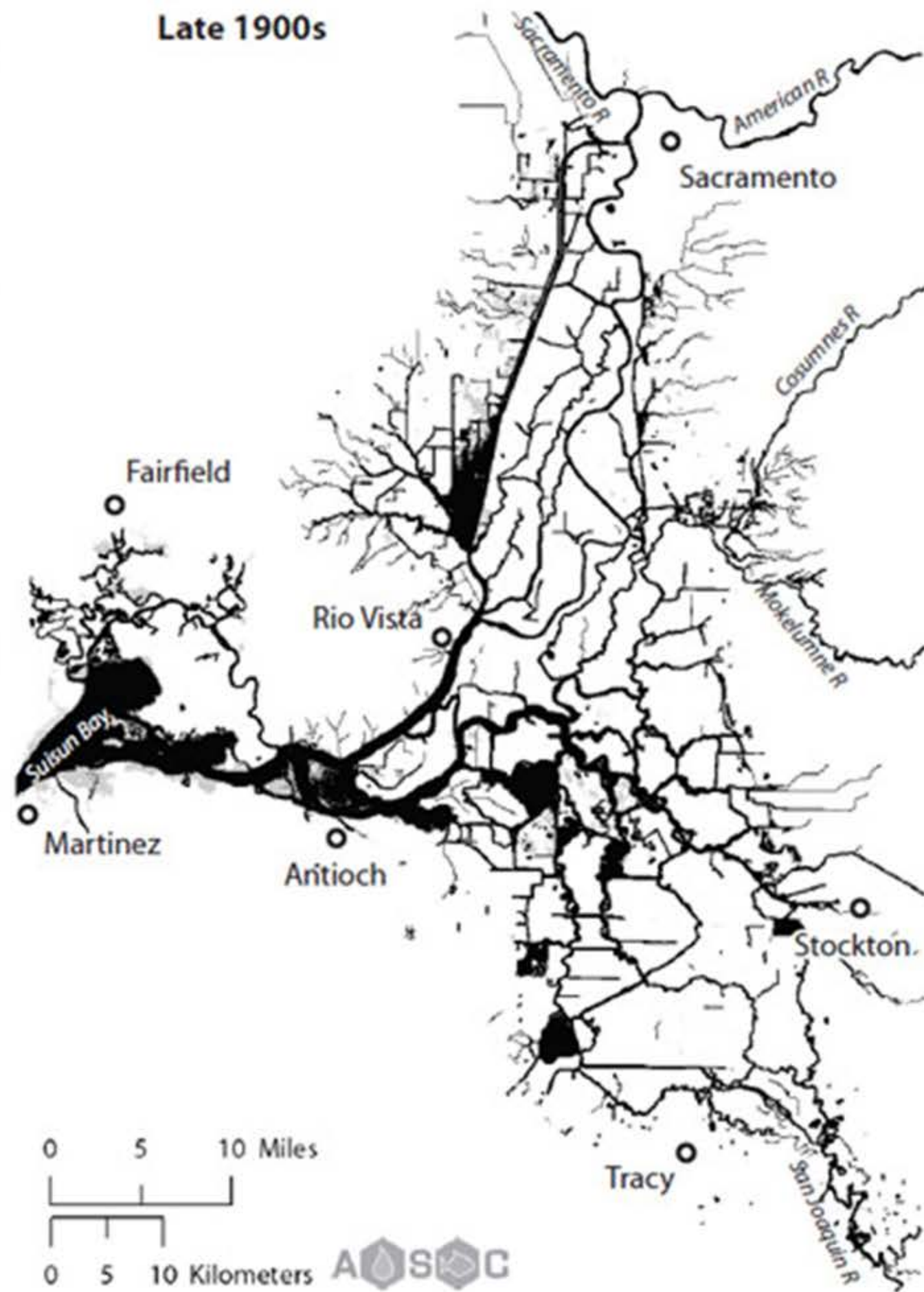
- **Yolo Bypass Program – floodplain habitat and passage**
 - Provide significantly increased acreage of seasonal floodplain salmonid rearing habitat in the lower Sacramento River basin.
 - Reduce migratory delays and loss of salmon, steelhead, and sturgeon at Fremont Weir and other structures in the Yolo Bypass.



Early 1800s



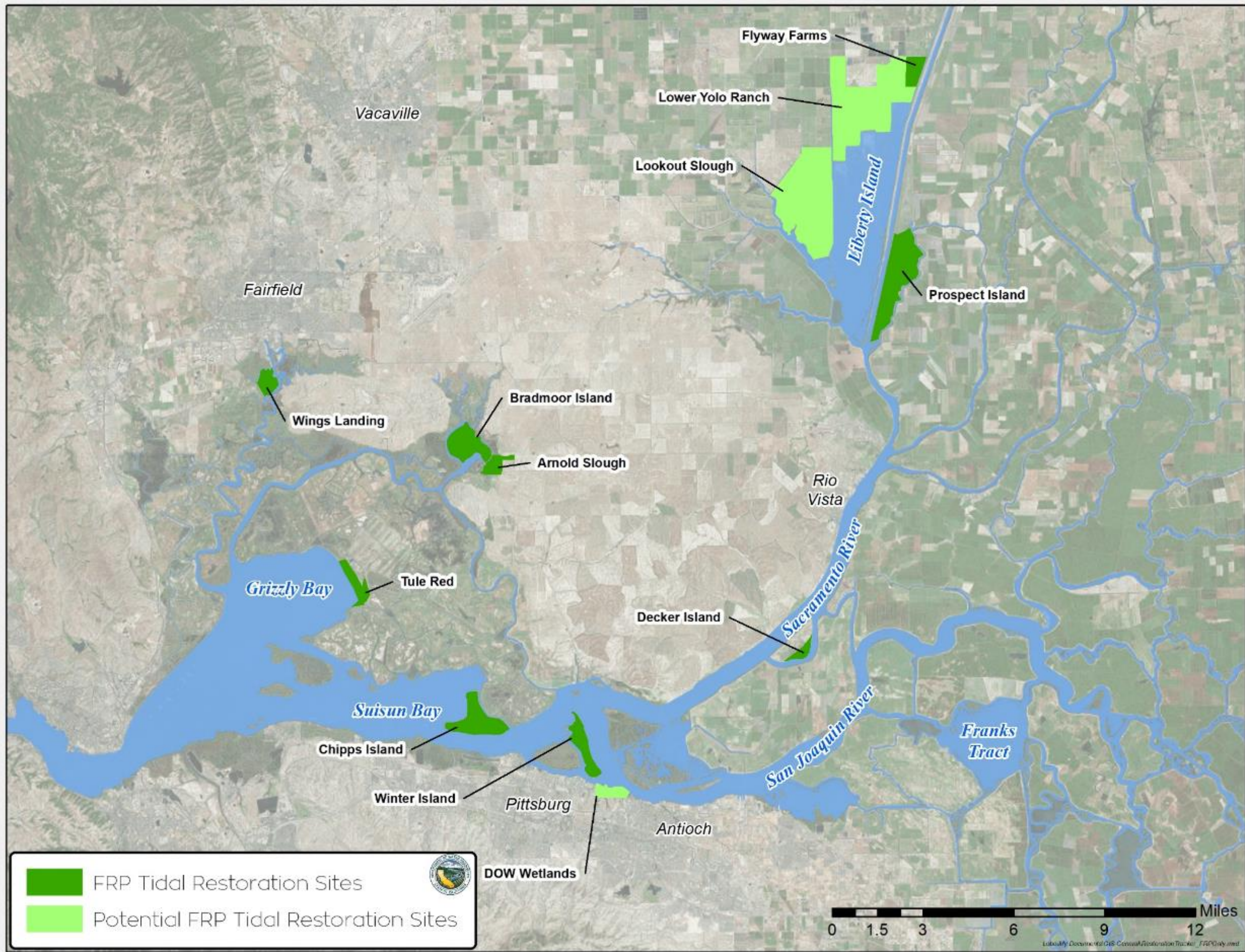
Late 1900s



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Loss of Tidal Habitat

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



Tidal Restoration – Additional Information

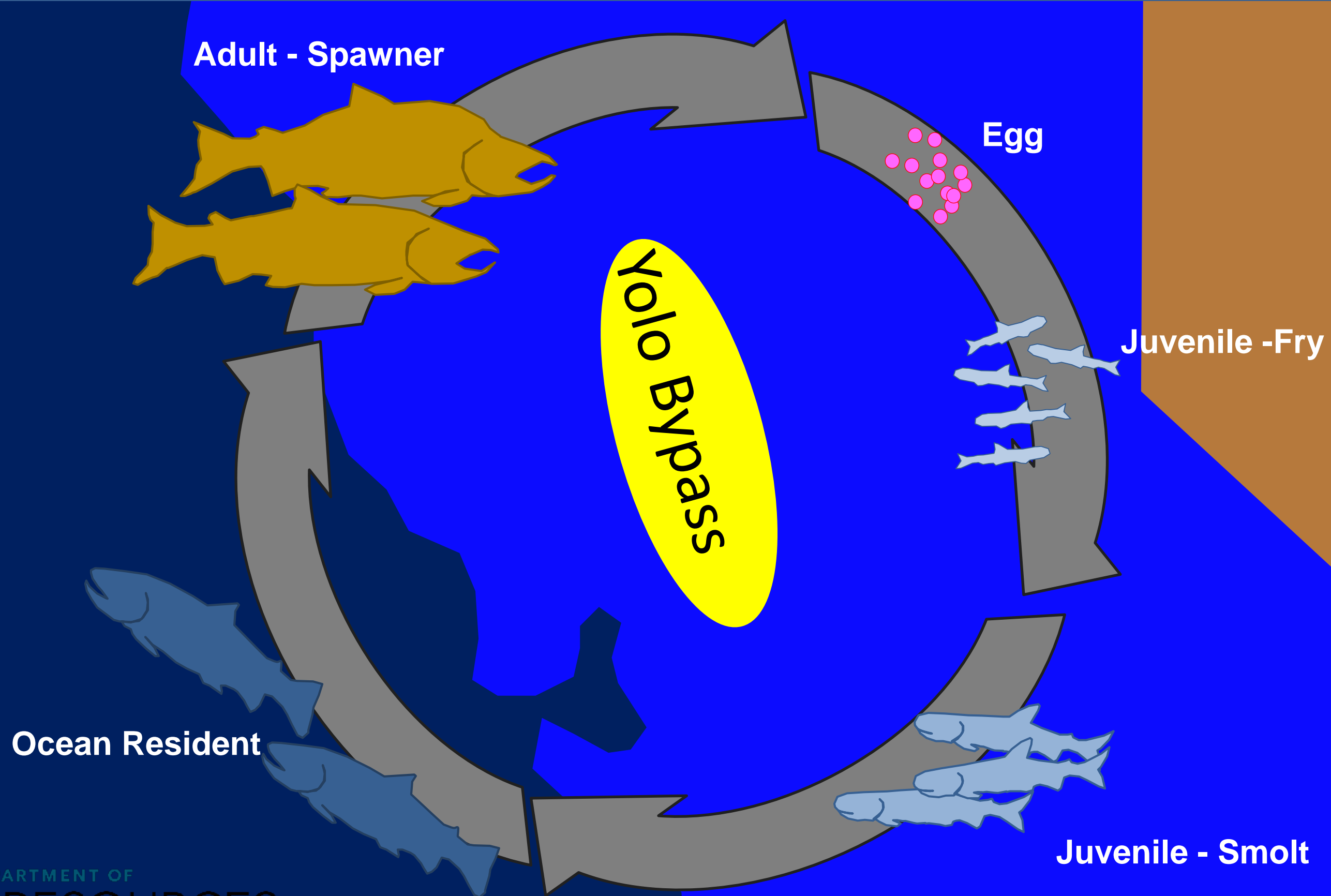
<https://water.ca.gov/Programs/Environmental-Services/Restoration-Mitigation-Compliance/Delta-Projects>

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

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



Yolo Bypass and Salmon Lifecycle/Migration





Sacramento River

Sacramento River

Flow

Colusa Basin Drain

Cache Creek

Putah Creek

Yolo Bypass 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

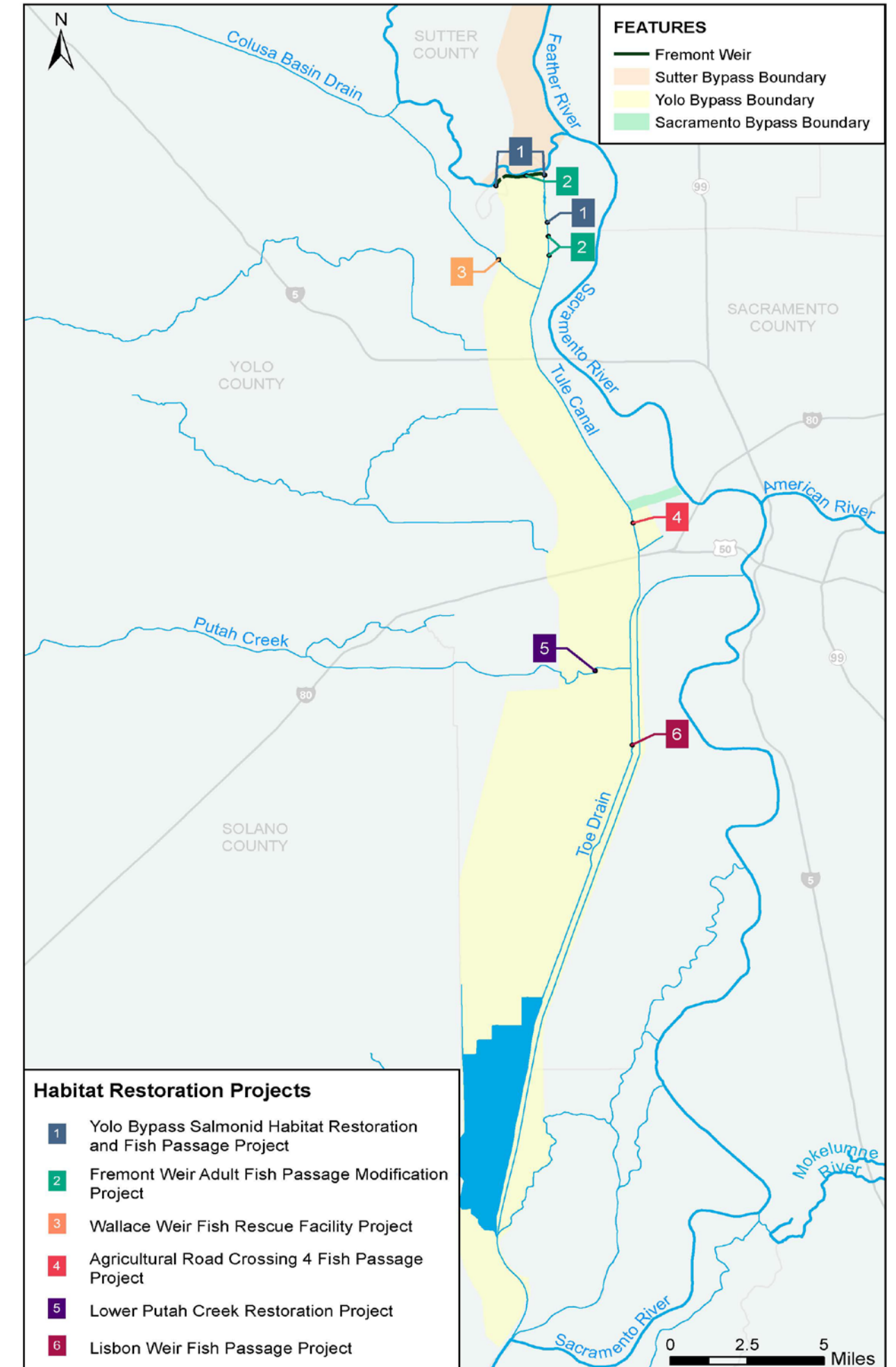
- Fremont Weir Adult Fish Passage Modification Project
- Wallace Weir Fish Rescue Facility Project

Planning/Design

- Agricultural Road Crossing #4
- Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project



Yolo Bypass Habitat Restoration Program Projects



Freemont Weir Adult Fish Passage: Before



Freemont Weir Adult Fish Passage: After



Ag Road Crossings: Before/After



Yolo Bypass Salmonid Habitat Restoration and Fish Passage Project

Floodplain rearing habitat

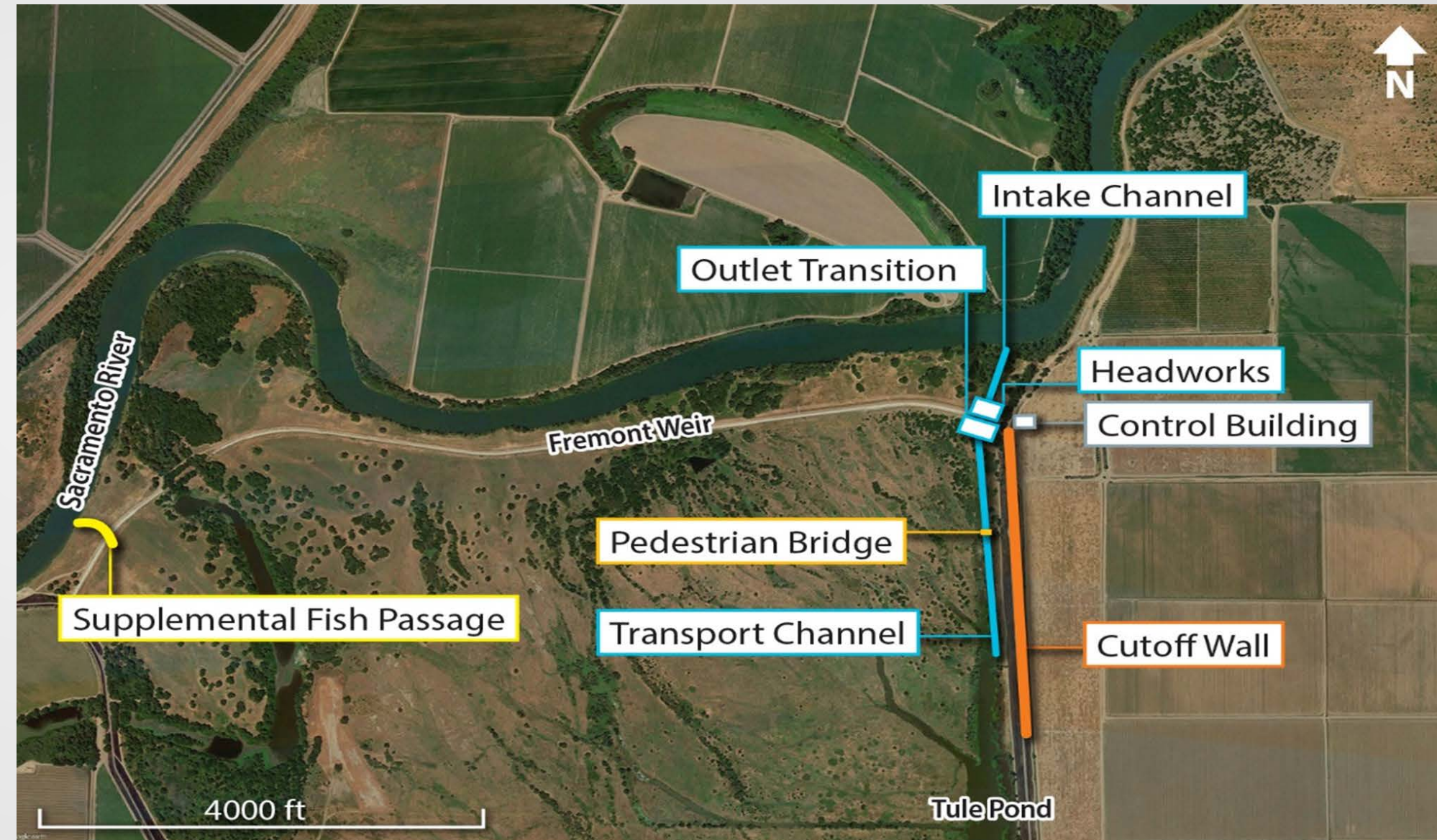
- Improve volitional access to and acreage of seasonal floodplain habitat through
- Reduce stranding and presence of migration barriers
- Increase aquatic primary and secondary biotic production to provide food through an ecosystem approach

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>



Parting Thoughts

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



Questions?

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