

CALIFORNIA DEPARTMENT OF WATER RESOURCES

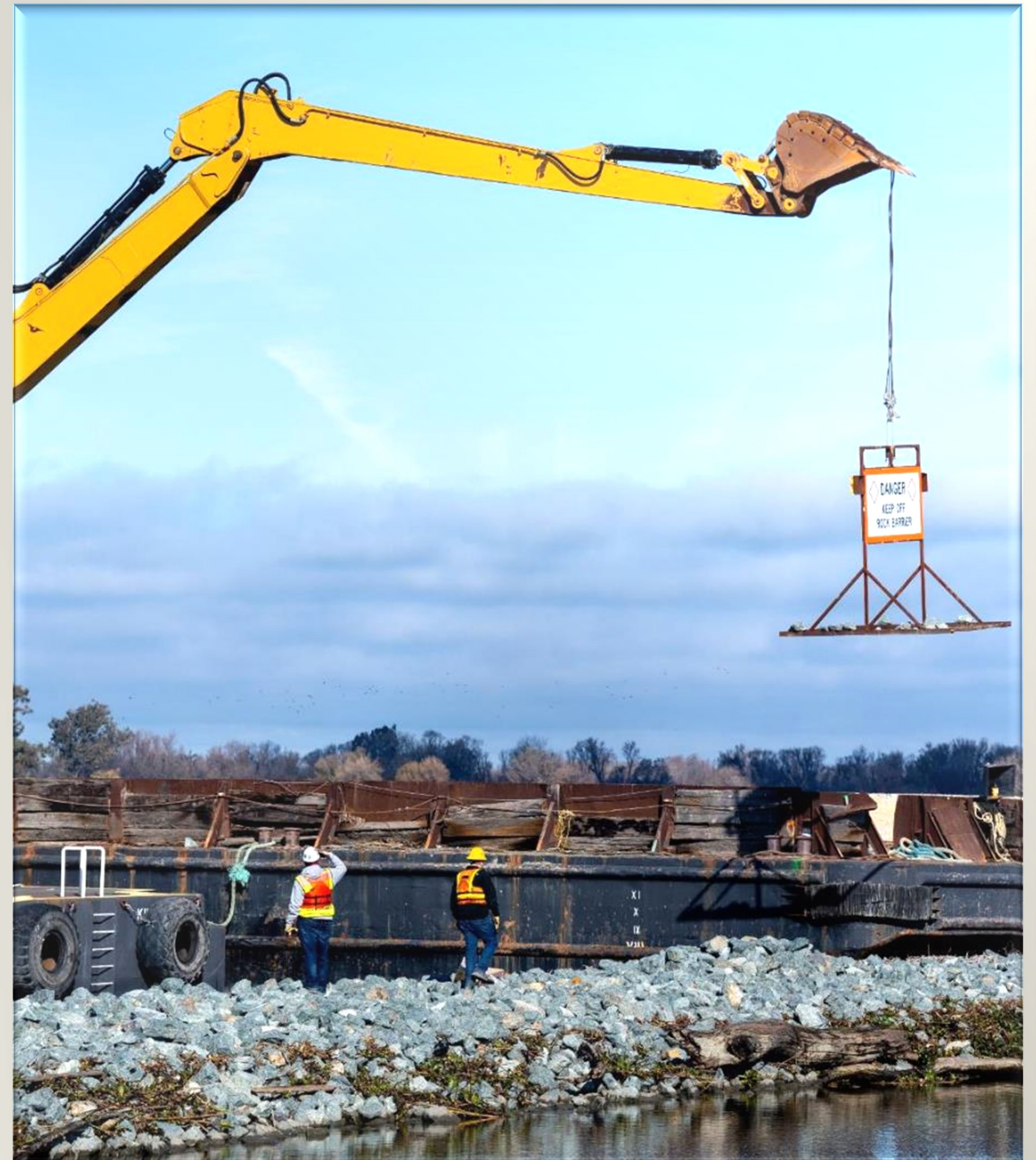
# West False River Drought Salinity Barrier Project

Protecting the Delta Ecosystem and Ensuring Water Supply Reliability



# Overview

- DSC Considerations
- Project Overview & Background
- Delta Hydrology – Wet vs. Dry Year
- Project Details
- Summary & Next Steps
- Questions and Discussion



# DSC Considerations

## DSC Considerations

### Project Overview & Background

### Delta Hydrology (Wet vs Dry Year)

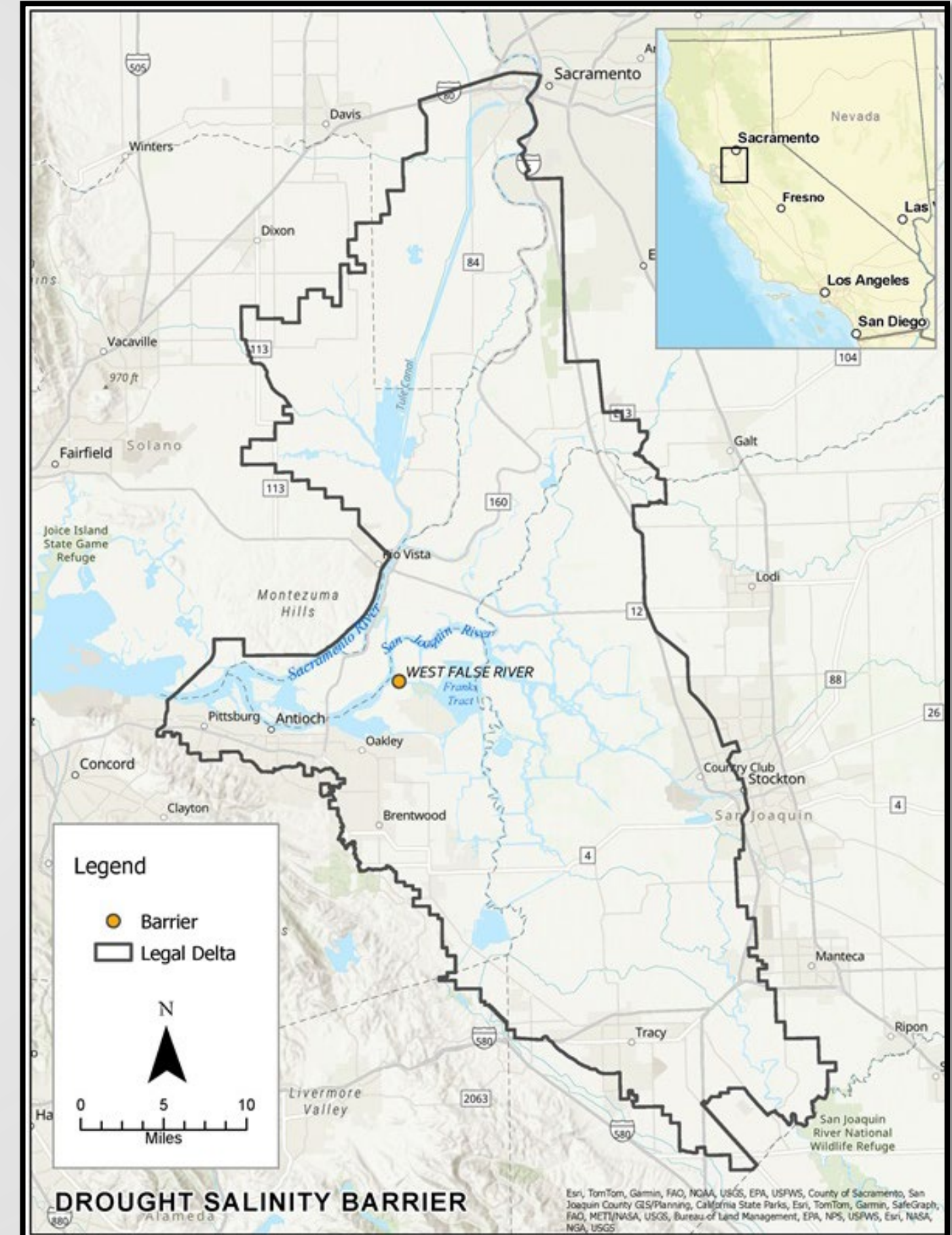
### Project Details

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## Atypical Certification of Consistency

- Proposed project: Ability to construct a temporary rock salinity barrier at WFR (2026-2035)
- Only be constructed under dry hydrologic conditions caused by climate change
- Given the cyclical nature of drought, it's not a question of if, but when the rock barrier will be required
- Due to the unknown timing of project need, DWR is proactively submitting Certification of Consistency documents as a precursor to the need
- Planning for the worst and hoping for the best



# Project Overview

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## Need

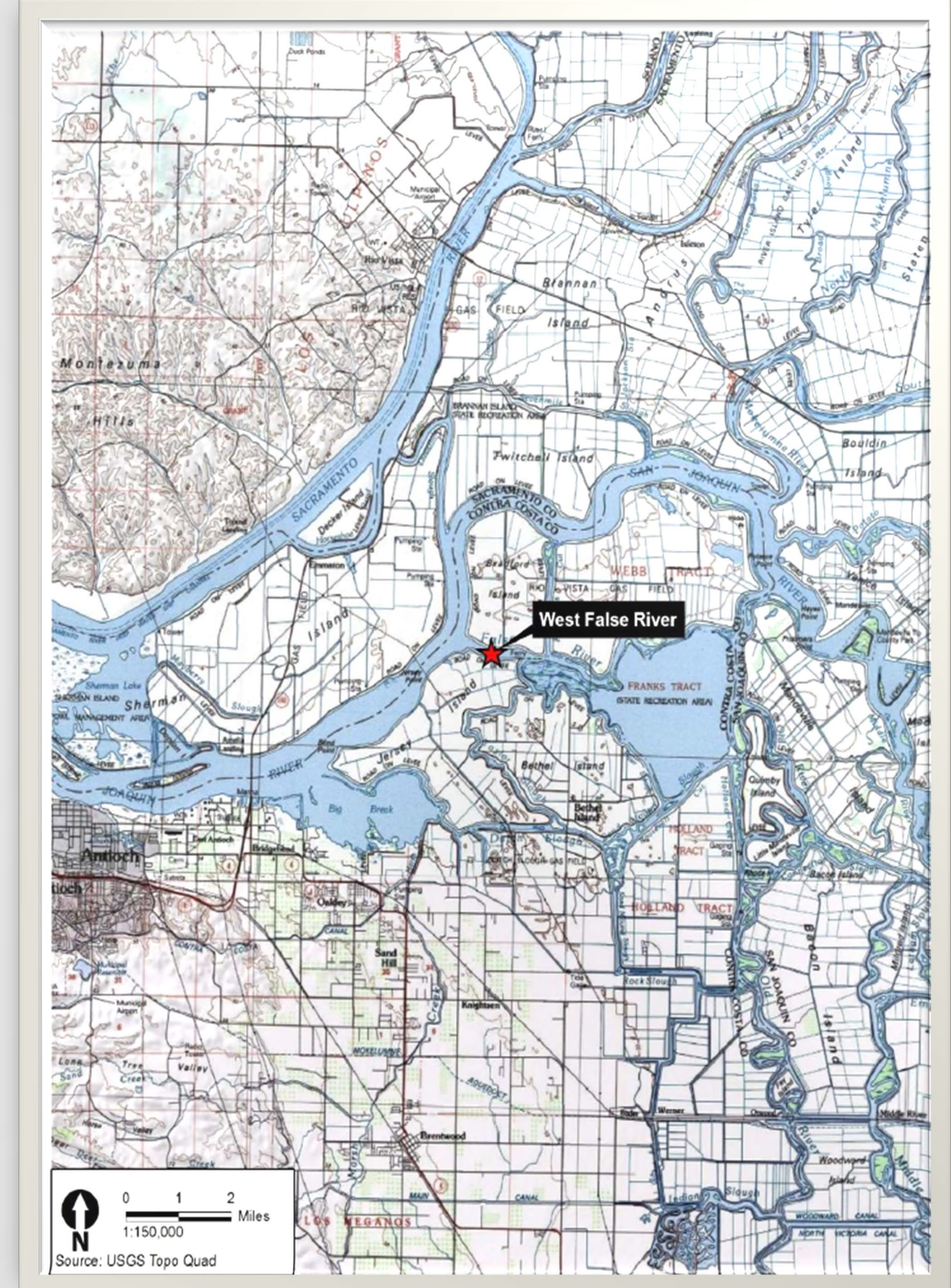
- Maintain freshwater supplies in the Delta during severe drought conditions, when inflow is insufficient to prevent saltwater intrusion
- Proactive approach vs. emergency drought response

## Purpose

- Protects Central Delta water quality for agricultural needs, habitat, and water supply to ~ 27 million Californians
- Preserve upstream reservoir storage for public health and safety needs and regulatory requirements

## Scope

- When needed, install drought salinity barrier up to 2x over 10 years (2026-2035)
- Construct no sooner than April 1 and remove by November 30 the same year (or the following year, if conditions persists)



# Project Location

## West False River (WFR) - located in the Central Delta in Contra Costa County

- 2009 investigations identified WFR as the most consistent location for salinity reduction across various hydrologic conditions
- Optimal location to protect the north-to-south freshwater corridor by blocking saltwater flows from SF Bay into Franks Tract
- WFR is the main channel which would transport saltwater into Franks Tract -the central hub of the Delta
- Prevents freshwater from channels like Mokelumne and Old River from mixing with the saltwater flowing through WFR during flood tides into Franks Tract

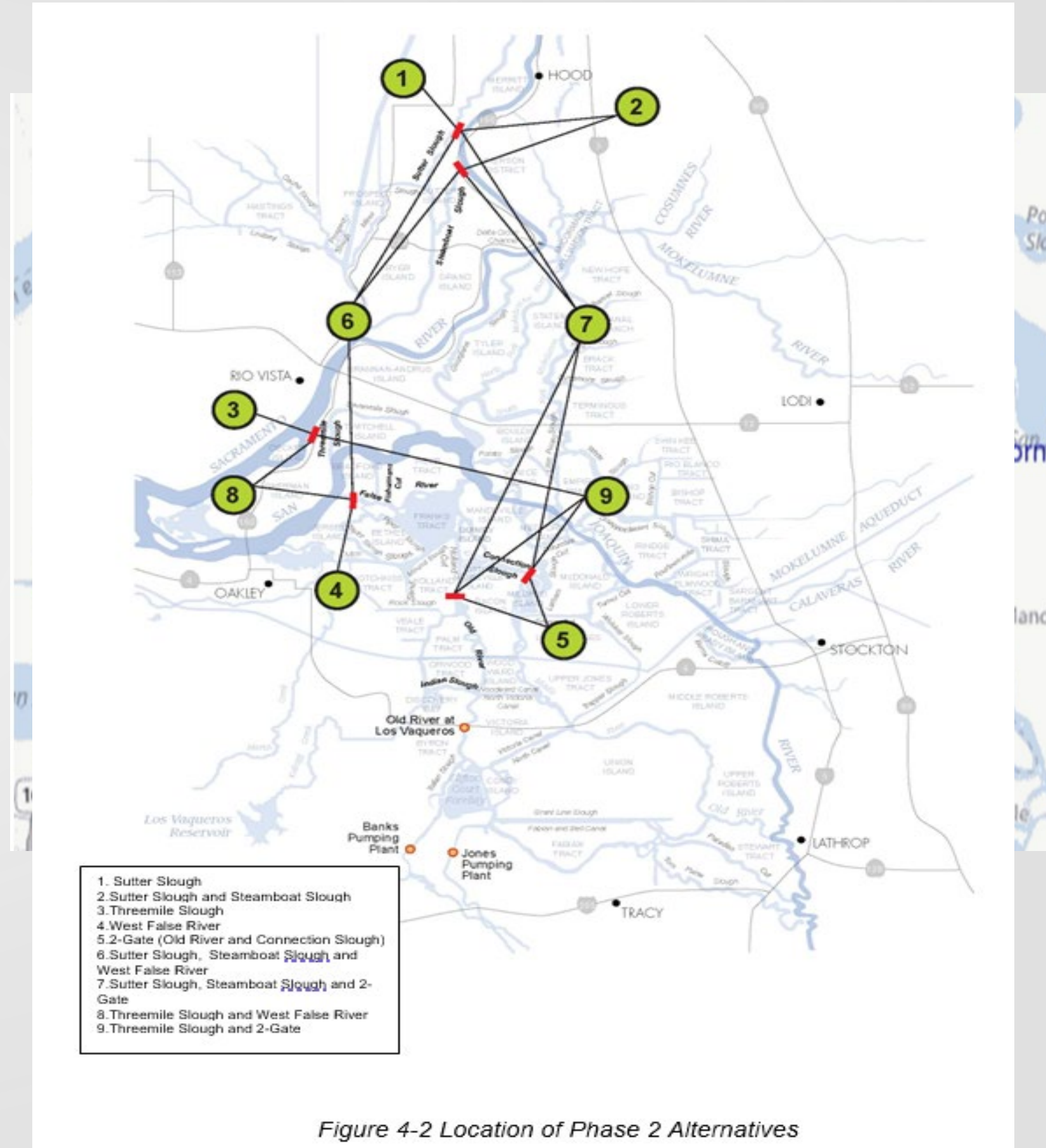


Figure 4-2 Location of Phase 2 Alternatives

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# Background & History

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## California Hydrology

➤ California has a cyclical history of drought

- 2007-2009
- 2012-2016\*
- 2020-2022\*\*

11 drought years within 15-year period

## Past vs. Future Barriers

- Past - two previous emergency barrier installations at West False River occurred in 2015\* and 2021-2022\*\*
  - Response to severe drought conditions & Governor's EOs
- Future - barrier installation will not rely on emergency orders

**Bulletin 120 Water Year Hydrologic Classifications (Based on measured unimpaired runoff)**

Water Year	Sacramento Valley Index		San Joaquin Valley Index	
	Index	WY Type	Index	WY Type
2007	6.19	D	1.97	C
2008	5.16	C	2.06	C
2009	5.78	D	2.72	BN
2010	7.08	BN	3.55	AN
2011	10.54	W	5.58	W
2012	6.89	BN	2.18	D
2013	5.83	D	1.71	C
2014	4.07	C	1.16	C
2015	4	C	0.81	C
2016	6.71	BN	2.35	D
2017	14.14	W	6.46	W
2018	7.14	BN	3.03	BN
2019	10.34	W	4.94	W
2020	6.12	D	2.35	D
2021	3.8	C	1.32	C
2022	4.55	C	1.56	C
2023	9.33	W	6.4	W



# Delta Hydrology – Wet Water Year

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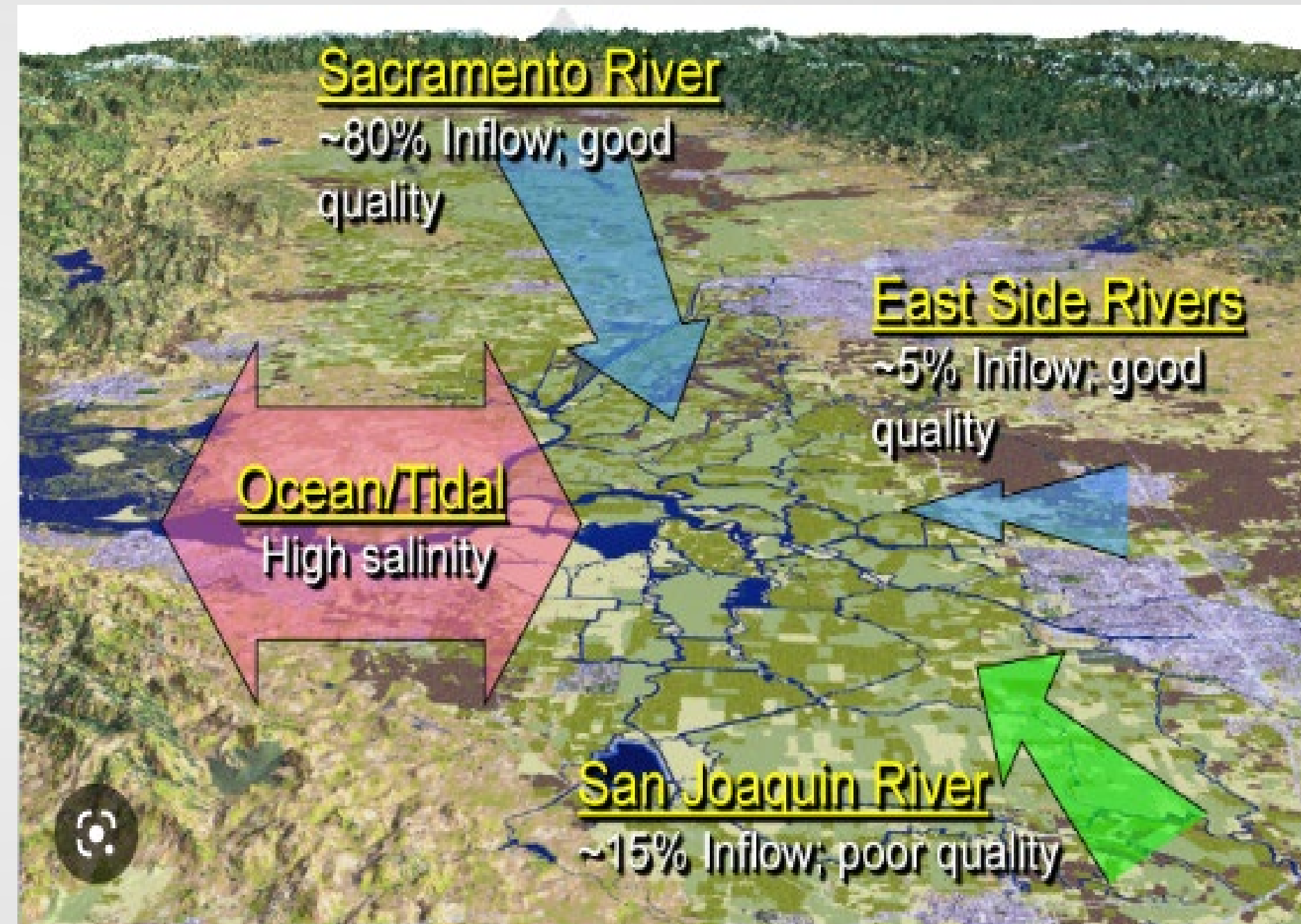
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## At the mercy of river flows and brackish tides:

- Inflow from the north provide flows to keep water in the north-to-south Delta corridor fresh and prevent saltwater intrusion from the SF Bay
- System of interconnected waterways safeguards beneficial uses of water in the Delta:
  - Water Delivery (e.g., ag, municipal, domestic, industrial)
  - Water Quality
  - Aquatic Habitat
- System provides fresh water to in-Delta water districts (e.g., Contra Costa Water District) and other water users year round



# Delta Hydrology – Dry Water Year

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- Reduced Delta Inflow
- During flood tides, higher salinity water from the SF Bay intrudes into the central Delta, gradually contaminating it with salts, which once established is difficult to reverse
- High salinity levels
  - Negatively impacts in-Delta water users and their municipal and irrigation water supplies
  - Reduces the amount of freshwater available for downstream communities that rely on this water source
  - Creates human right to water challenges for communities that may not have access to alternative water supplies





# Wet Water Year vs. Dry Water Year

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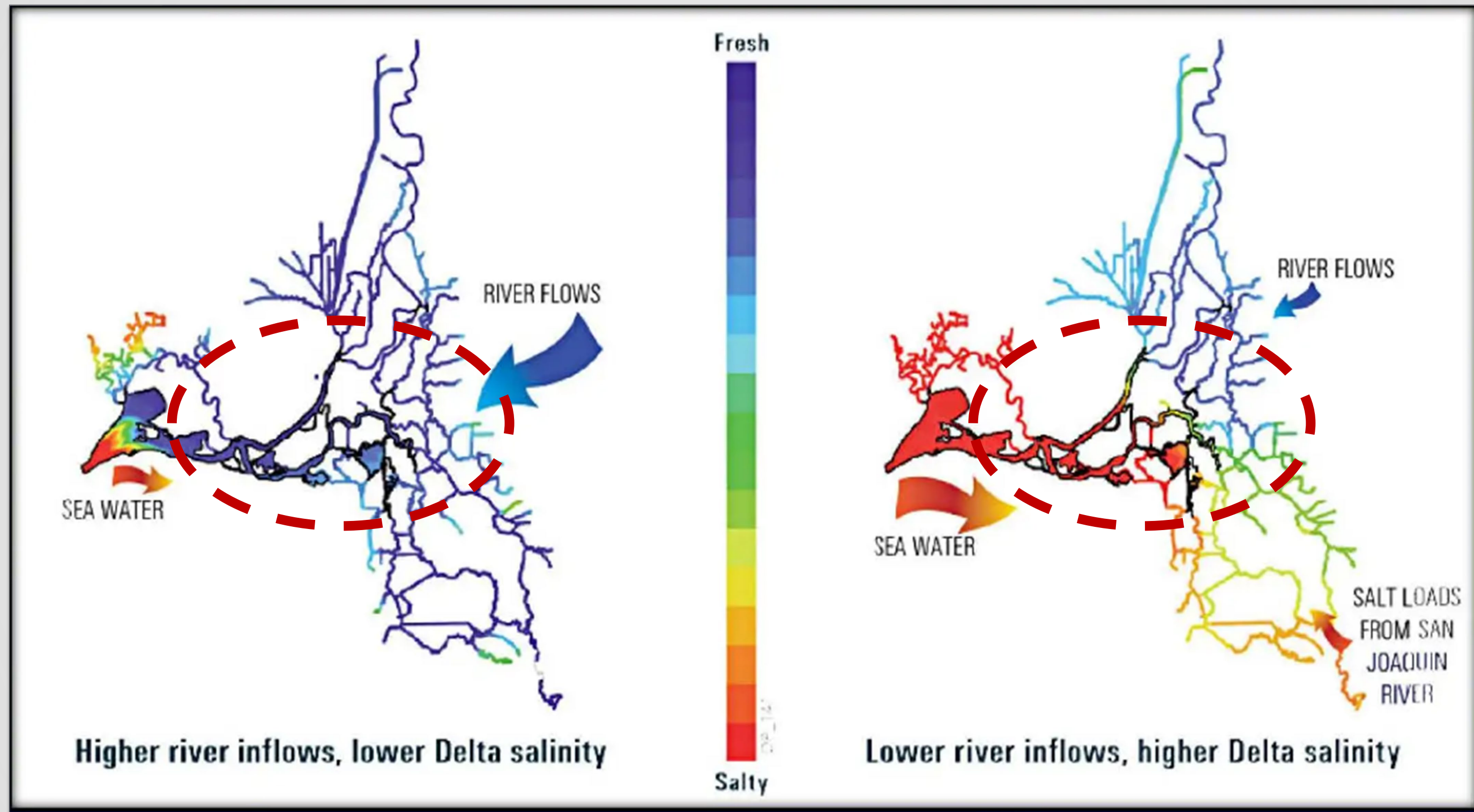
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\*Condition cannot be reversed during extreme drought thus affecting in-Delta beneficial uses.



# EDB Project Results

## Previous Emergency Drought Barrier Installations (2015 and 2021)

- Maintained the north-to-south freshwater corridor and safeguarded beneficial uses for in-Delta water users
- Withstood saltwater intrusion into Franks Tract
- Allowed SWP and CVP to operate with reduced Delta outflow while protecting water quality in the central Delta
- Maintained reservoirs cold-water pool for fish during critical need periods

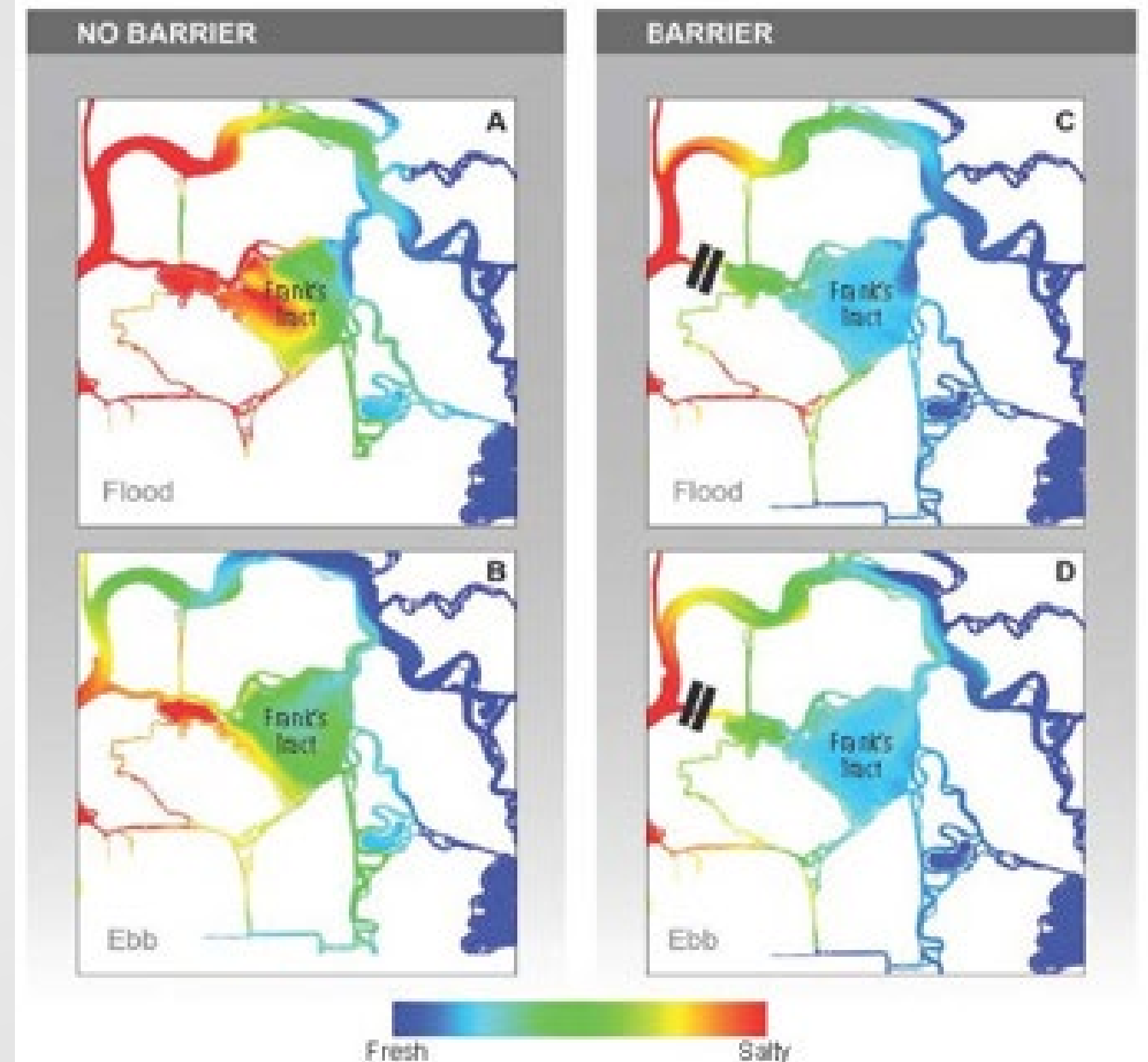


Figure 1-1  
Conceptual Illustration of Salinity Near Franks Tract (Center) On Flood and Ebb Tide for No Barrier and a West False River Barrier, Based on the Bay-Delta SCHISM Model for a Low Net Delta Outflow Index Forecast

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## Summary

**Proposed project is consistent with the coequal goals for *Protecting the Delta Ecosystem* and *Ensuring Water-Supply Reliability***

- Barrier would only be built should severe drought conditions warrant the need.
- DWR seeks flexibility to proactively and adaptively manage salinity intrusion around the Sacramento-San Joaquin Delta in response to climate change.
- Increase the Sacramento-San Joaquin Delta's resiliency from the effects of climate change by protecting water delivery, water quality, and aquatic habitat.
- Strengthen the Sacramento-San Joaquin Delta's ability to resist and/or rebound from inter-annual variability and the compounding impacts of multiyear droughts by protecting beneficial uses of water.
- Salinity barriers are proven effective for water quality protection and upstream storage preservation during severe drought.

## Next Steps

- Submit Certification of Consistency documents (Tentatively April 2025)
- Based on current hydrologic conditions, soonest DWR anticipates the need for barrier installation is April 2026.



# Questions & Discussion

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## Contact

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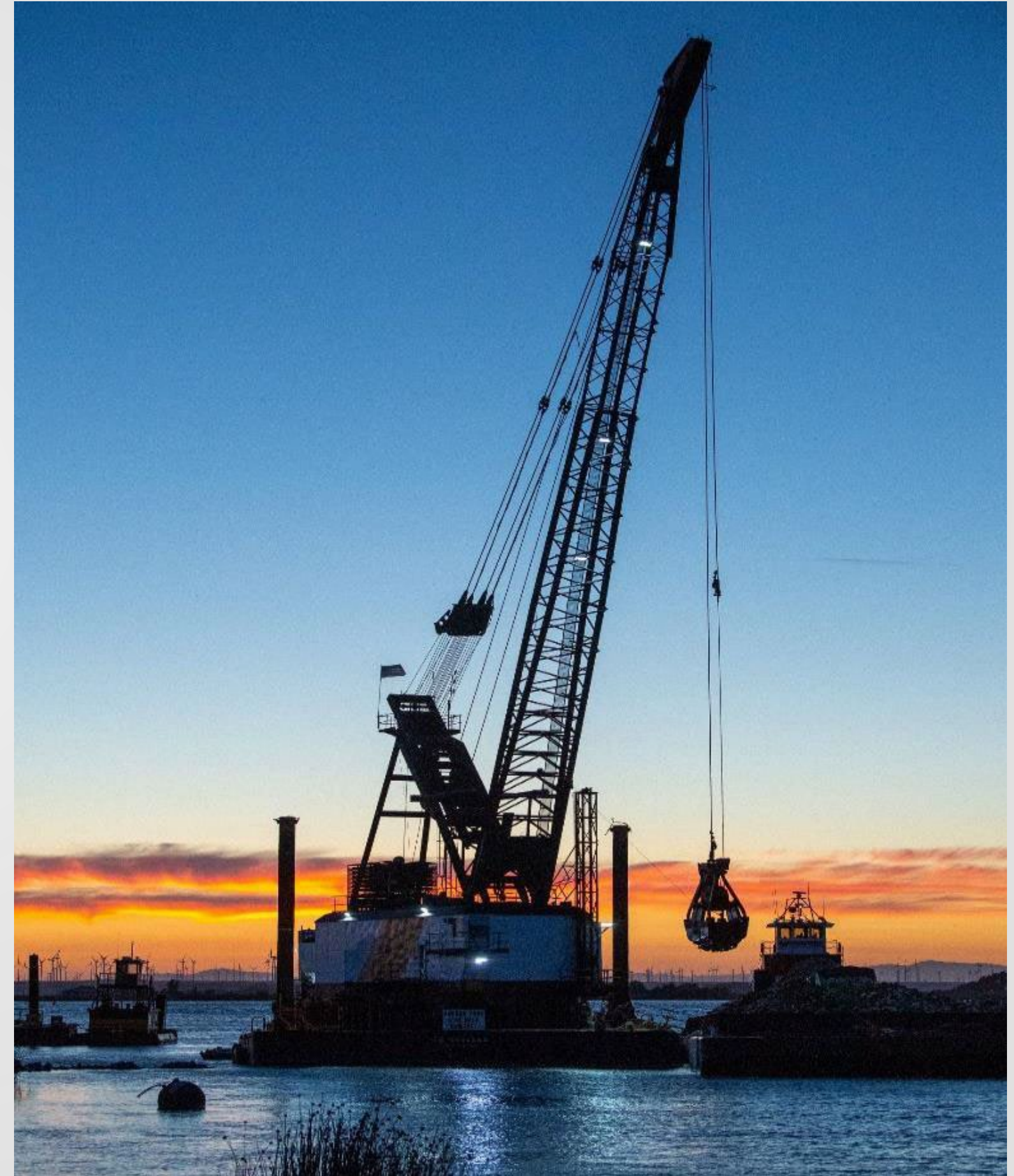
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