



California Aqueduct Subsidence Program

Annual Tribal Informational Meeting #4

Feb. 8, 2024



Meeting Format & Webinar Guidance

- Meeting will be recorded
- Live captioning is available
- Questions/discussion throughout meeting
- Presentation will be shared





Agenda

Time	Proposed Topic	Presenters
2:00 pm	Welcome & Opening Remarks	Anecita Agustinez, DWR Tribal Policy Advisor
2:15 pm	Introductions	All
2:25 pm	Overview of the CASP	Jesse Dillon, DWR CASP Manager
2:40 pm	CASP Project Updates	David Moldoff, DWR CASP Deputy Manager
3:00 pm	Adjourn	



Welcome

- Anecita Agustinez, DWR Tribal Policy Advisor
- Opening Remarks
- Tribal Introductions
- DWR Staff Introductions





Invited Tribes

- List of Tribes that have been contacted:

Big Sandy Rancheria of Western Mono Indian	Cold Springs Rancheria of Mono Indians	Table Mountain Rancheria	Dunlap Band of Mono Indians	Sierra Foothill Wuksachi Yokuts Tribe	Traditional Choinuymni Tribe	Dumna Wo-Wah Tribal Government	Big Pine Reservation	Bishop Paiute Tribe	Ft. Independence Reservation
Lone Pine Paiute Shoshone Tribe	Kern Valley Indian Community	Tejon Indian Tribe	Chumash Council of Bakersfield	Tubatulabals of Kern Valley	Kitanemuk & Yowlumne Tejon Indians	Santa Rosa Rancheria Tachi Yokut Tribe	Chukchansi Yokotch Tribe	Chukchansi Tribe	Dumna Wo-Wah Tribal Government
North Fork Band of Mono Indians	North Fork Rancheria of Mono Indians	Picayune Rancheria of Chukchansi Indians	Chuchansi Yokotch Tribe of Mariposa CA	Southern Sierra Miwuk Nation	Benton Paiute Reservation	Bridgeport Indian Colony	Mono Lake Indian Community	Washoe/Paiute of Antelope Valley	Antelope Valley Paiute Tribe
Tule River Reservation	United Lumbee Nation of North Carolina and America	Wuksachi Indian Tribe	Chicken Ranch Rancheria of Me-Wuk Indians	Tuolumne Rancheria	Tuolumne Algerine Band of Yokut	Coastal Band of the Chumash Nation	Yak Tityu Tity Yak Tilhini – Northern Chumash Tribe	Fernandeno Tataviam Band of Mission Indians	Kings River Choinumni Farm Tribe
Nashville Enterprise Miwok-Maidu-Nishinam Tribe	North Valley Yokuts Tribe	Quechan Tribe of the Fort Yuma Reservation	Salinan Tribe of Monterey, San Luis Obispo	San Fernando Band of Mission Indians	San Manual Band of Mission Indians	Santa Ynez Band of Chumash Indians	Xolon-Salinan Tribe		



Introductions – CASP Representatives

CASP Program Manager



Jesse Dillon

CASP Deputy Program Managers



Jim Lopes



David Moldoff

CASP Environmental Lead/Support



Marea
McCann



Robin
Hoffman, ESA



Prior Engagement

SLFD Embankment & Liner Raise Projects

Jul. 15, 2020: Informational Meeting #1

Tribes attended:

Picayune Rancheria of Chukchansi Indians

Santa Rosa Rancheria Tachi Yokut Tribe

Tule River Indian Tribe

Aug. 20, 2021: Meeting Postponed

Jan. 12, 2022: Informational Meeting #2

Tribes attended:

Santa Rosa Rancheria Tachi Yokut Tribe

Jan. 10, 2023: Informational Meeting #3

Tribes attended:

Santa Rosa Rancheria Tachi Yokut Tribe

Picayune Rancheria of Chukchansi Indians

SJFD Liner Raise and Instrumentation Project

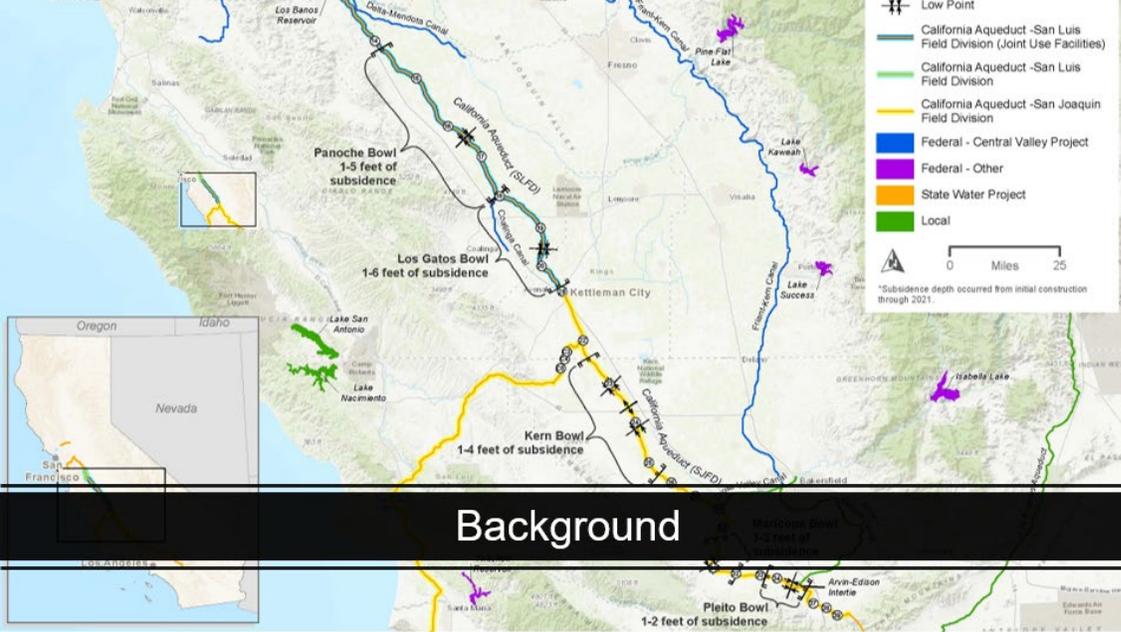
April 2020: Consultation Meeting #1

With Santa Rosa Rancheria Tachi Yokut
Tribe

Groundwater Monitoring Project

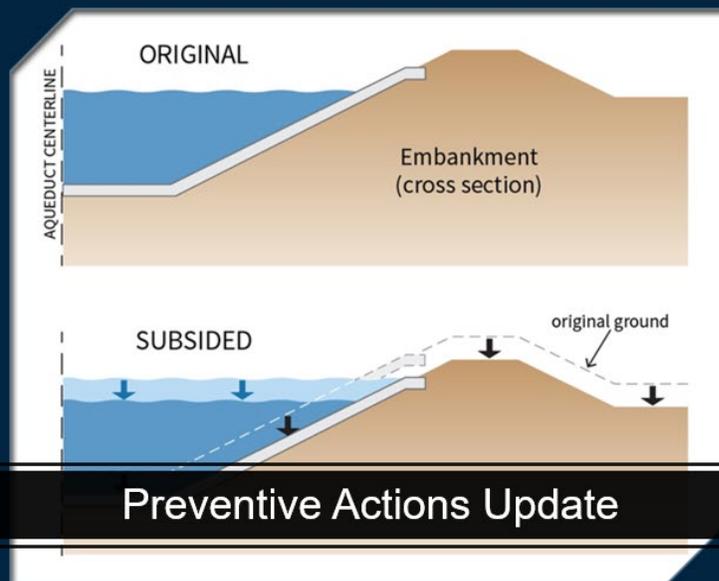
Sept. 22, 2022: Consultation Meeting #1

With Santa Rosa Rancheria Tachi Yokut
Tribe (ongoing)

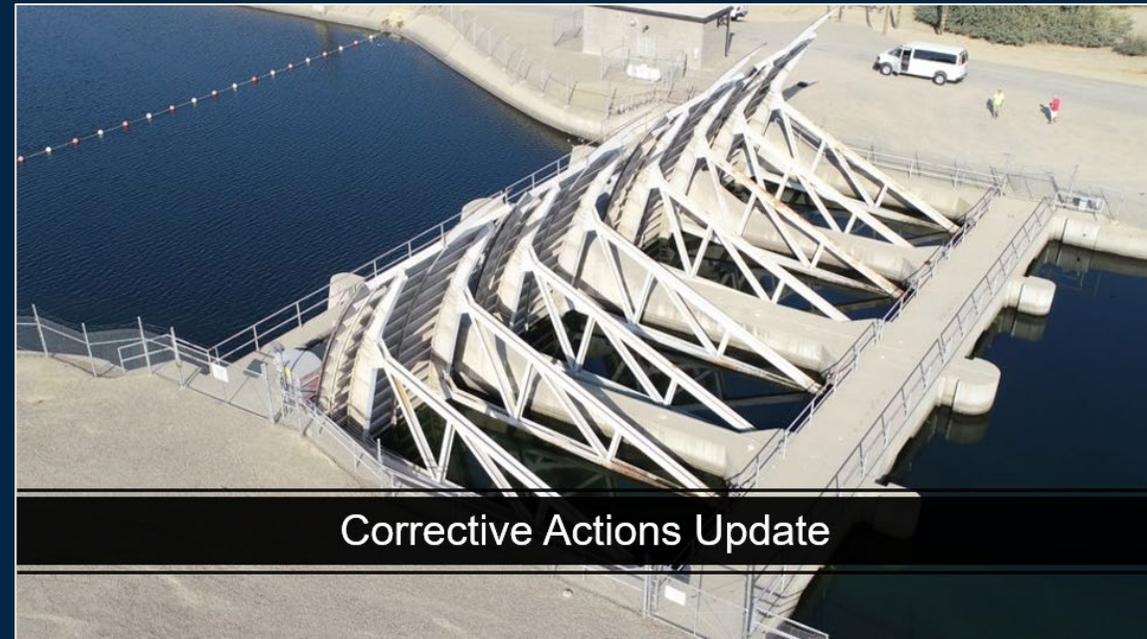


Background

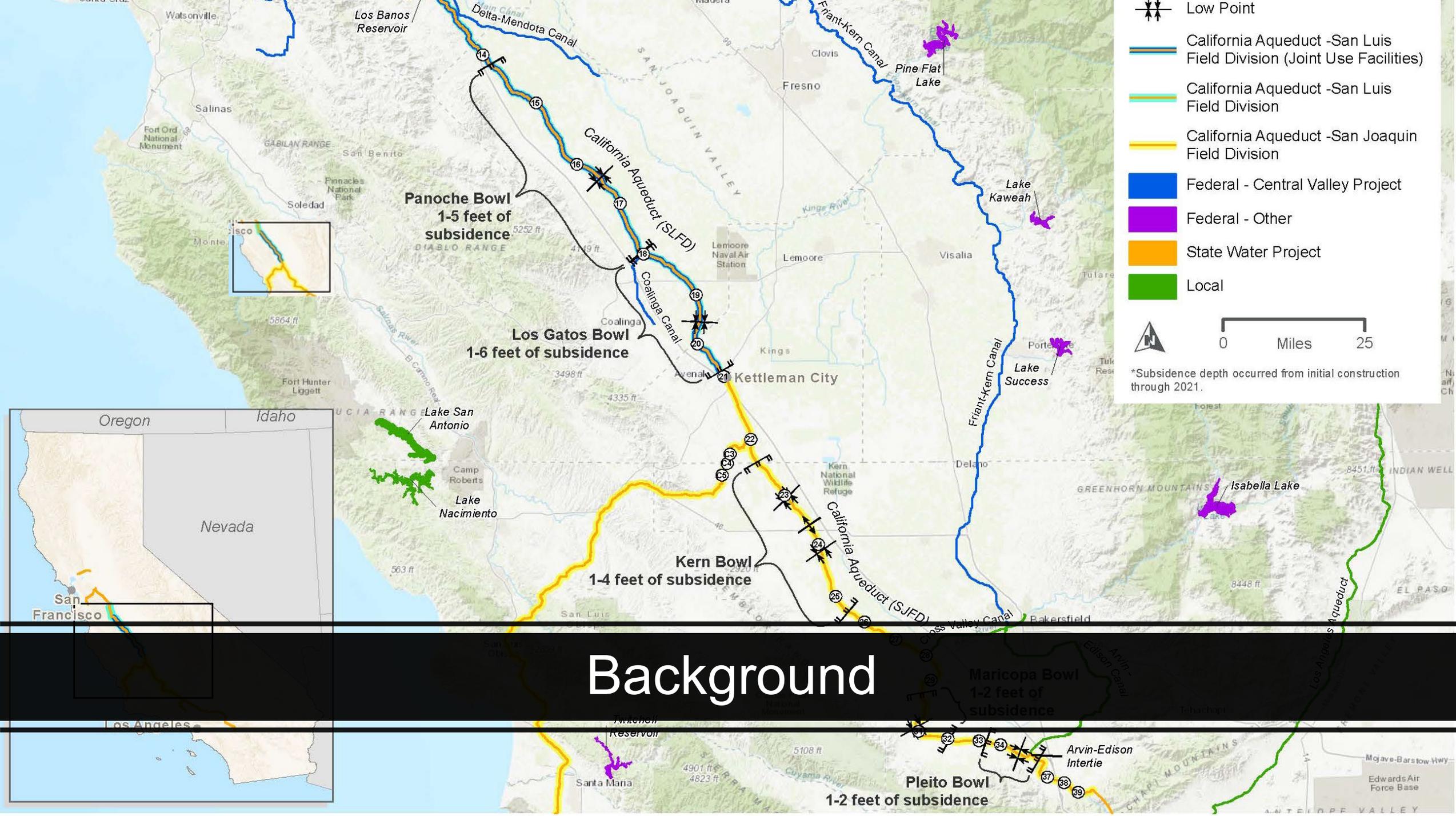
CASP OVERVIEW

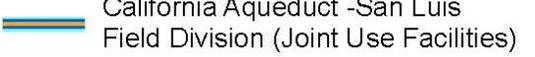
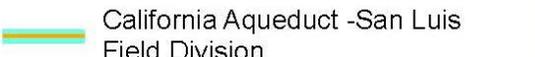
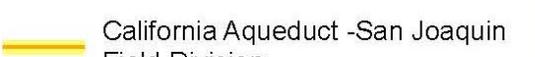
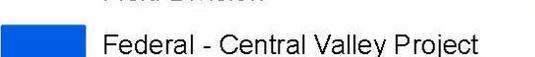
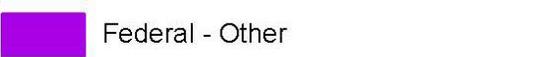
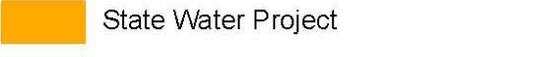


Preventive Actions Update



Corrective Actions Update



 Low Point
 California Aqueduct - San Luis Field Division (Joint Use Facilities)
 California Aqueduct - San Luis Field Division
 California Aqueduct - San Joaquin Field Division
 Federal - Central Valley Project
 Federal - Other
 State Water Project
 Local

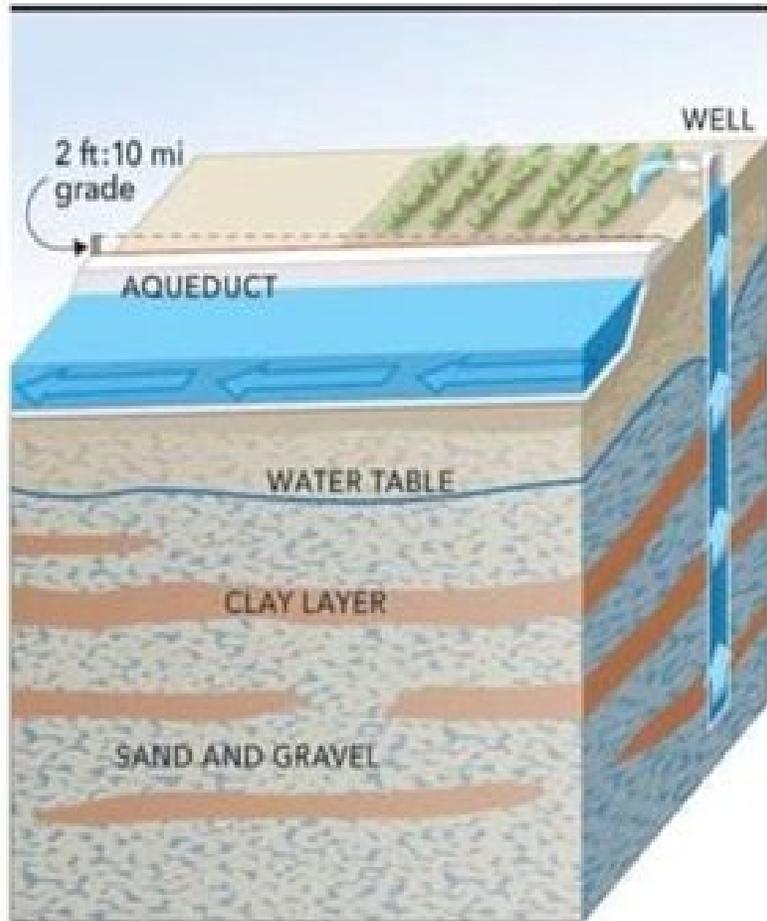
 

*Subsidence depth occurred from initial construction through 2021.

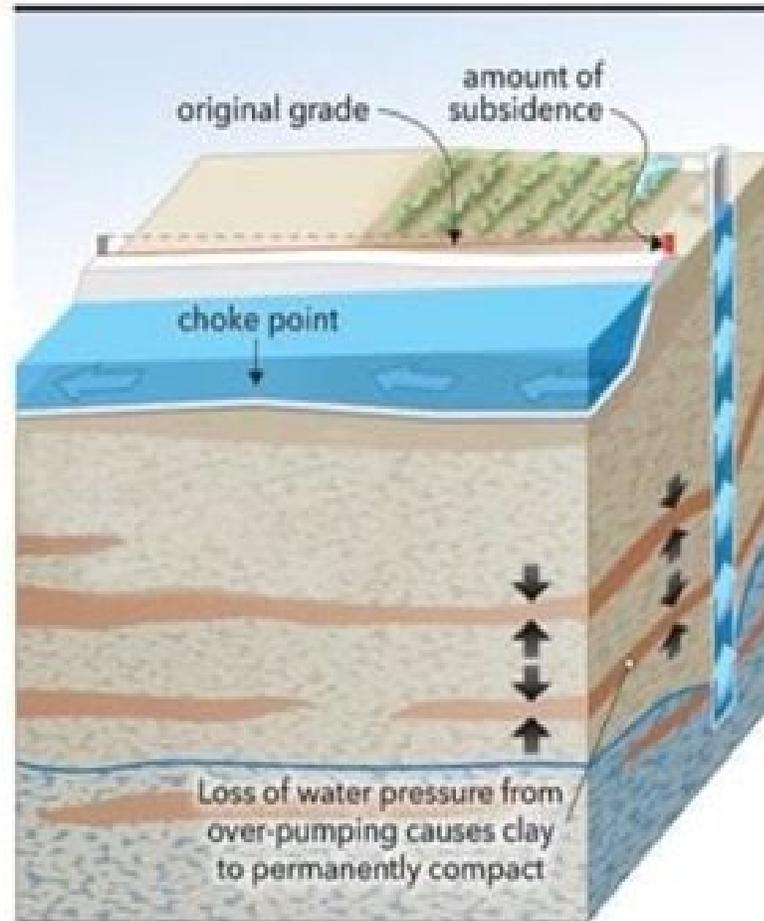
Background

Subsidence Defined

BEFORE



AFTER



Subsidence refers to the permanent sinking of the land surface.

Subsidence is the result of physical compression that occurs within certain types of soils depending on changing physical conditions.

Since the mid-1920s, groundwater pumping in the San Joaquin Valley has caused increased subsidence.



Department of Water Resources (DWR)



State Water Project (SWP)



Division of Engineering (DOE)



California Aqueduct Subsidence Program (CASP)

Developing and implementing the most beneficial and affordable preventive and corrective actions to mitigate the adverse effects of subsidence on the California Aqueduct.



CASP Background

- Launched in 2017 by the State Water Project (SWP) to help improve resiliency and prepare for future subsidence needs.
- The CASP's goal is to develop and implement the most beneficial and affordable, preventive, and corrective actions to mitigate the adverse effects of current and future subsidence along the California Aqueduct in the San Joaquin Valley.
- The CASP also engages in and supports other efforts for continued current, near-term, and long-term SWP operations





CASP External Relationships

Bureau of Reclamation

Federal Central
Valley Project Contractors

Elected Officials

Farm Bureau

Tribal Nations

Governor's office

Natural Resources
Agency

Sustainable Groundwater
Management Office

State Water Project
Contractors

Groundwater Sustainability
Agencies

Environmental groups

Regulators

Local landowners

Disadvantaged Communities

Recreation operators



CASP Geographic Area

State of California
California Natural Resources Agency
DEPARTMENT OF WATER RESOURCES
Division of Engineering

CALIFORNIA AQUEDUCT SUBSIDENCE STUDY
San Luis Field Division
San Joaquin Field Division



June 2017

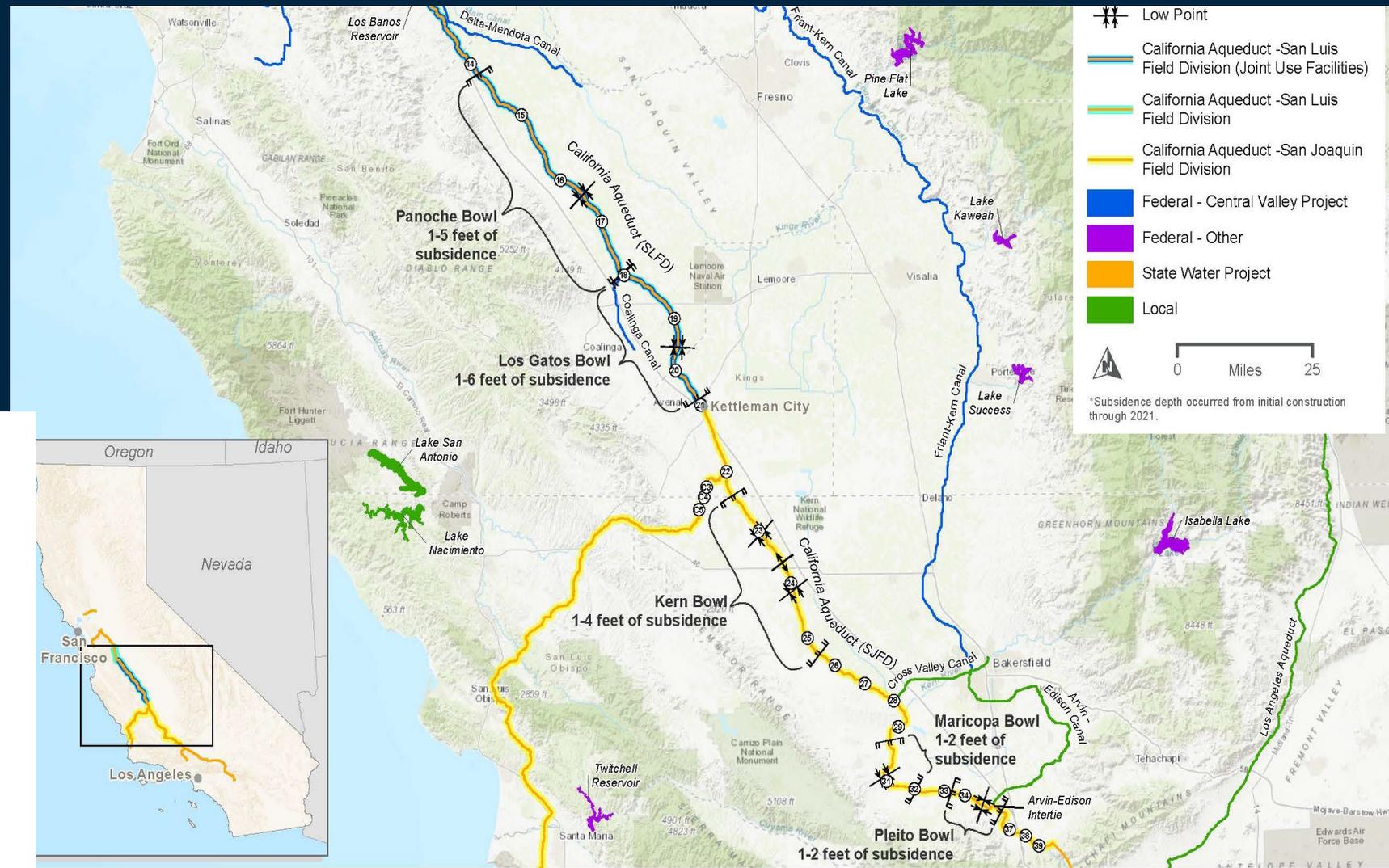
State of California
California Natural Resources Agency
DEPARTMENT OF WATER RESOURCES
Division of Engineering

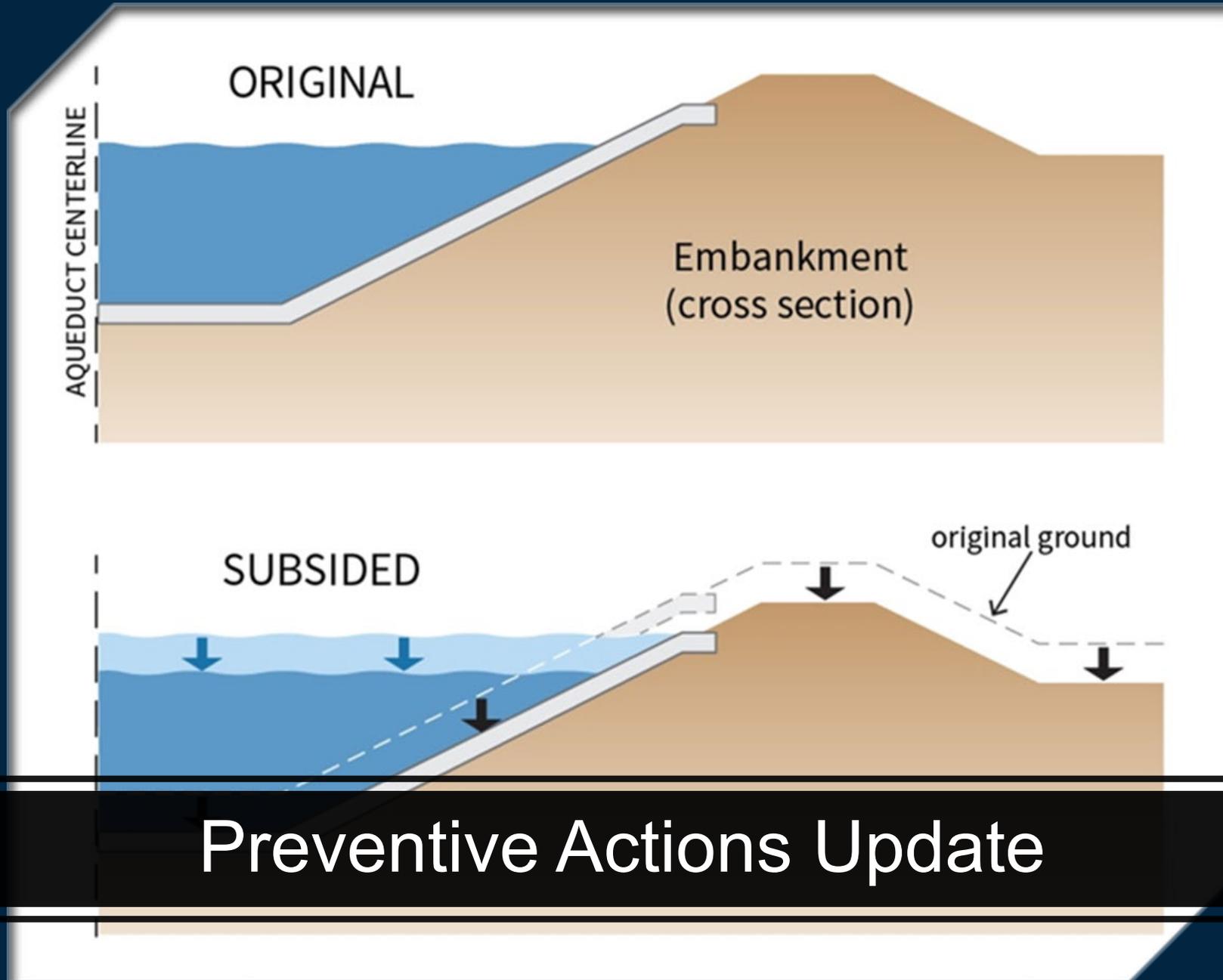
**CALIFORNIA AQUEDUCT SUBSIDENCE STUDY:
SUPPLEMENTAL REPORT**

San Luis Field Division
San Joaquin Field Division



March 2019





Preventive Actions Update



Subsidence & Groundwater Monitoring

- Provide new data through detailed monitoring of subsidence along the San Luis Canal and the California Aqueduct
- Installation of groundwater monitoring wells, continuous Global Positioning System (GPS) stations, climate stations, and magnetic ring extensometers
- Coordination with Tribes is ongoing to support information sharing and identify potential Tribal cultural resources

UPCOMING:

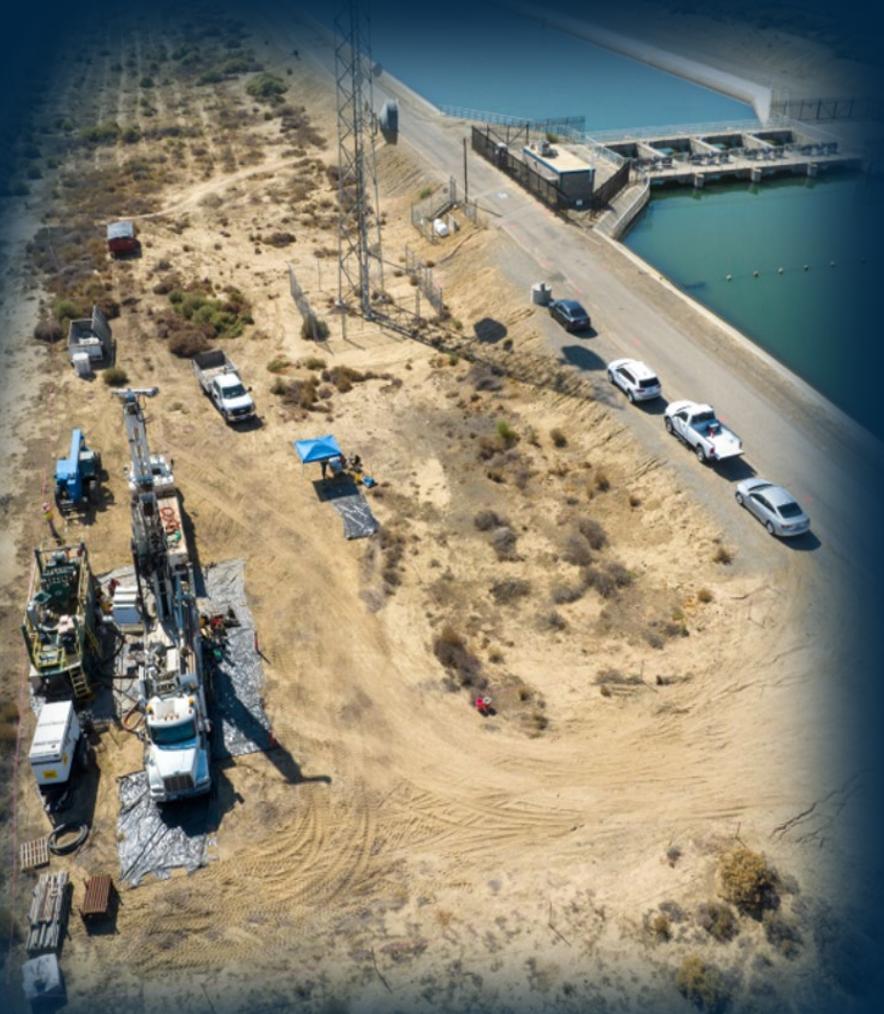
- Five sites are anticipated to be covered by a CEQA Mitigated Negative Declaration, and project-specific consultation letters anticipated to be sent out in Spring 2024
- 2024 to 2025: Additional instrumentation to be designed and installed at sites along both the San Luis Canal and California Aqueduct





Other Ongoing Preventive Actions

- Groundwater Sustainable Agency (GSA) Engagement
Coordinate with GSAs along the San Luis Canal and California Aqueduct to understand and address causes of subsidence of the Aqueduct
- Subsidence and Groundwater Modeling
Develop a more detailed model to better understand impacts of subsidence along the San Luis Canal and California Aqueduct





Corrective Actions Update



Subsidence Study

San Luis Canal:

- U.S. Bureau of Reclamation signed Charter and Plan of Study for Extraordinary Maintenance Justification (XMJ) in Sept 2023
- XMJ is a required feasibility study prior to major work and will take approx. 7 years
- XMJ process will include Federal and State environmental compliance and Tribal consultation

California Aqueduct:

- Effort in parallel with XMJ to identify impacts of subsidence

UPCOMING:

- DWR anticipates completing both studies in Feb 2030
- Tribal engagement on specifics of both studies is anticipated to begin in 2025

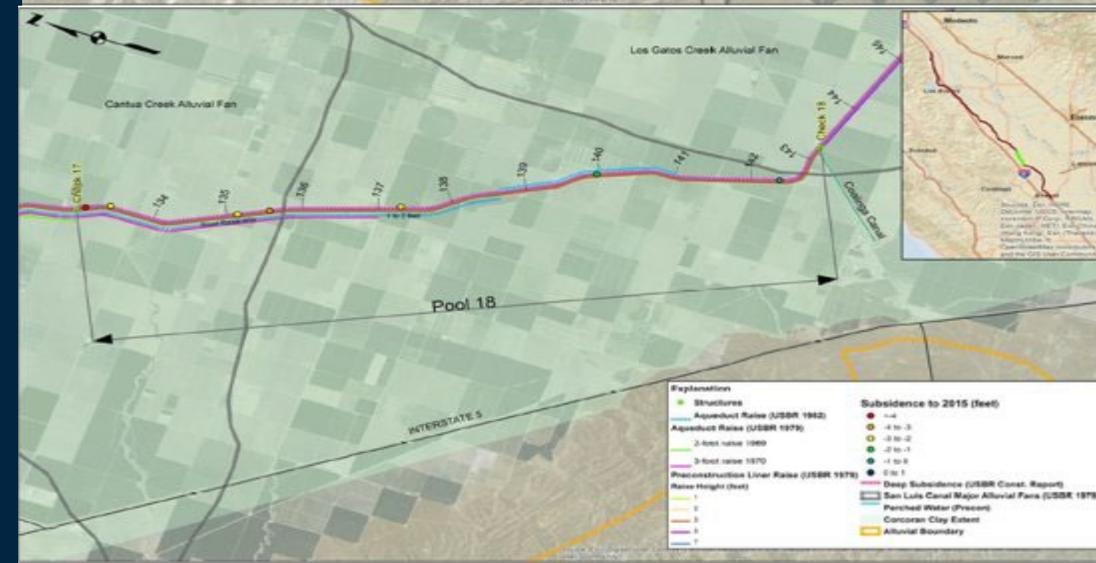
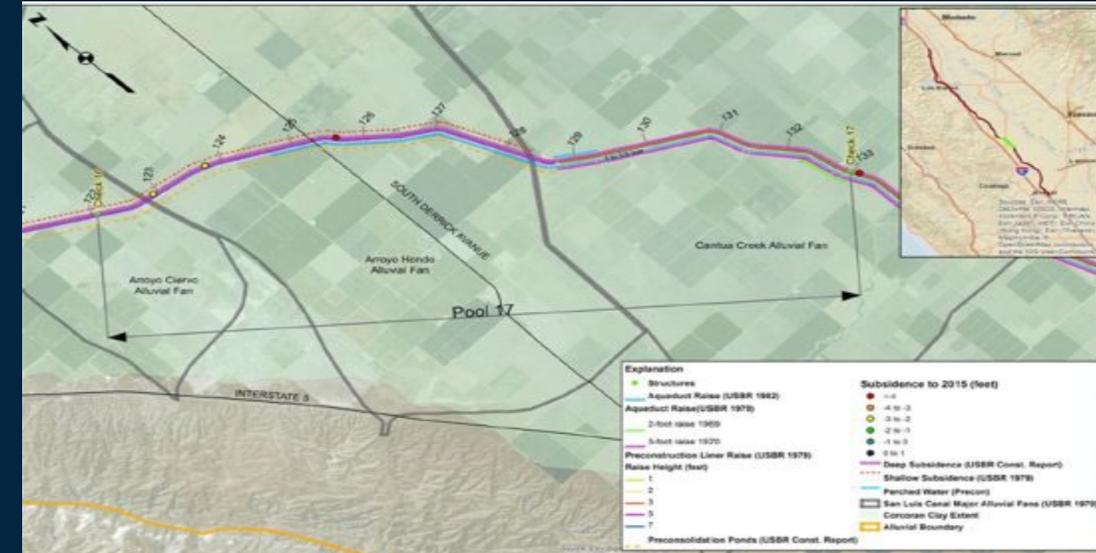


Pools 17-18 Embankment & Liner Raise

- Designs continued to progress
- All irrigation crossing inspections were completed in Jun 2023
- Heavy metal testing is underway to determine if levels above acceptable limits are localized near the facilities or a regional condition

UPCOMING:

- Continue progressing designs through Mar 2025
- Environmental documentation and Tribal consultation will occur through Subsidence Study (XMJ)
- Construction through closeout is anticipated Oct 2030-Aug 2033



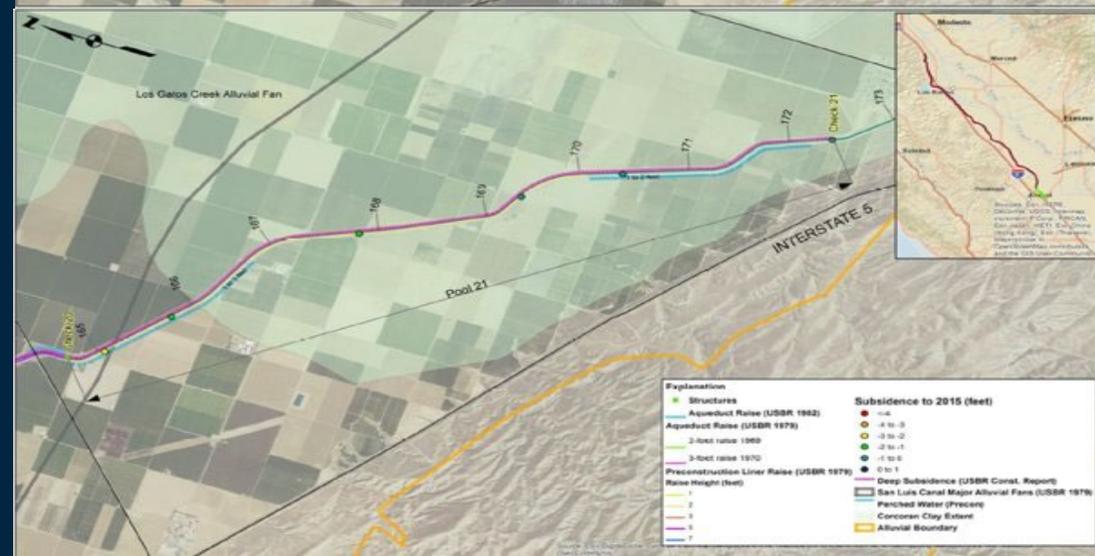
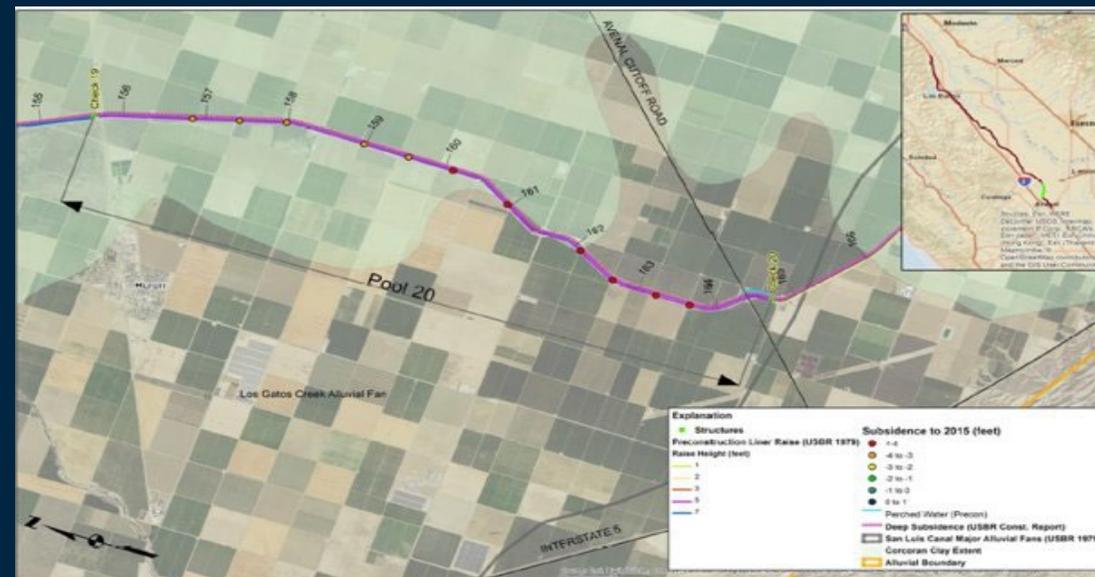


Pools 20-21 Embankment & Liner Raise

- Designs continued to progress
- Heavy metal testing is underway to determine if levels above acceptable limits are localized or a regional condition

UPCOMING:

- Continue progressing designs through Mar 2025
- Complete irrigation crossing inspections
- Environmental documentation and Tribal consultation will occur through Subsidence Study (XMJ)
- Construction through closeout is anticipated Apr 2030-Feb 2032





Check 17 Rehabilitation

- Designs continued to progress

UPCOMING:

- Continue progressing designs through May 2025
- Environmental documentation and Tribal consultation will occur through Subsidence Study (XMJ)
- Construction through closeout is anticipated Jul 2031-Aug 2033





Early Implementation Actions

- Designed to address near-term subsidence impacts prior to completion of the long-term study
- Anticipated to consist primarily of liner raises and operational changes

UPCOMING:

- Continue progressing designs through May 2025
- Environmental documentation and Tribal consultation will occur separate from other efforts (mid-late 2024)
- Construction thru closeout is anticipated Jul 2025-Aug 2027





DISCUSSION

Questions, comments, or discussion points?

Your comments can help DWR incorporate Native American Tribal values into CASP.





Upcoming Engagement

- Early 2024:
Monitoring Project – upcoming sites
- Mid-Late 2024:
Early Implementation Projects





CASP Website

<https://water.ca.gov/Programs/Engineering-And-Construction/Subsidence>



Tribal Engagement Website

<https://water.ca.gov/Programs/Engineering-And-Construction/Subsidence/TribalEngagement>



Thank You!

For additional information, please contact:

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