Special Subcommittee on Imported Water

Update on California Aqueduct Subsidence

Item 3c

June 23, 2025

Item 3a

Update on California Aqueduct Subsidence

Subject

Update on California Aqueduct Subsidence

Purpose

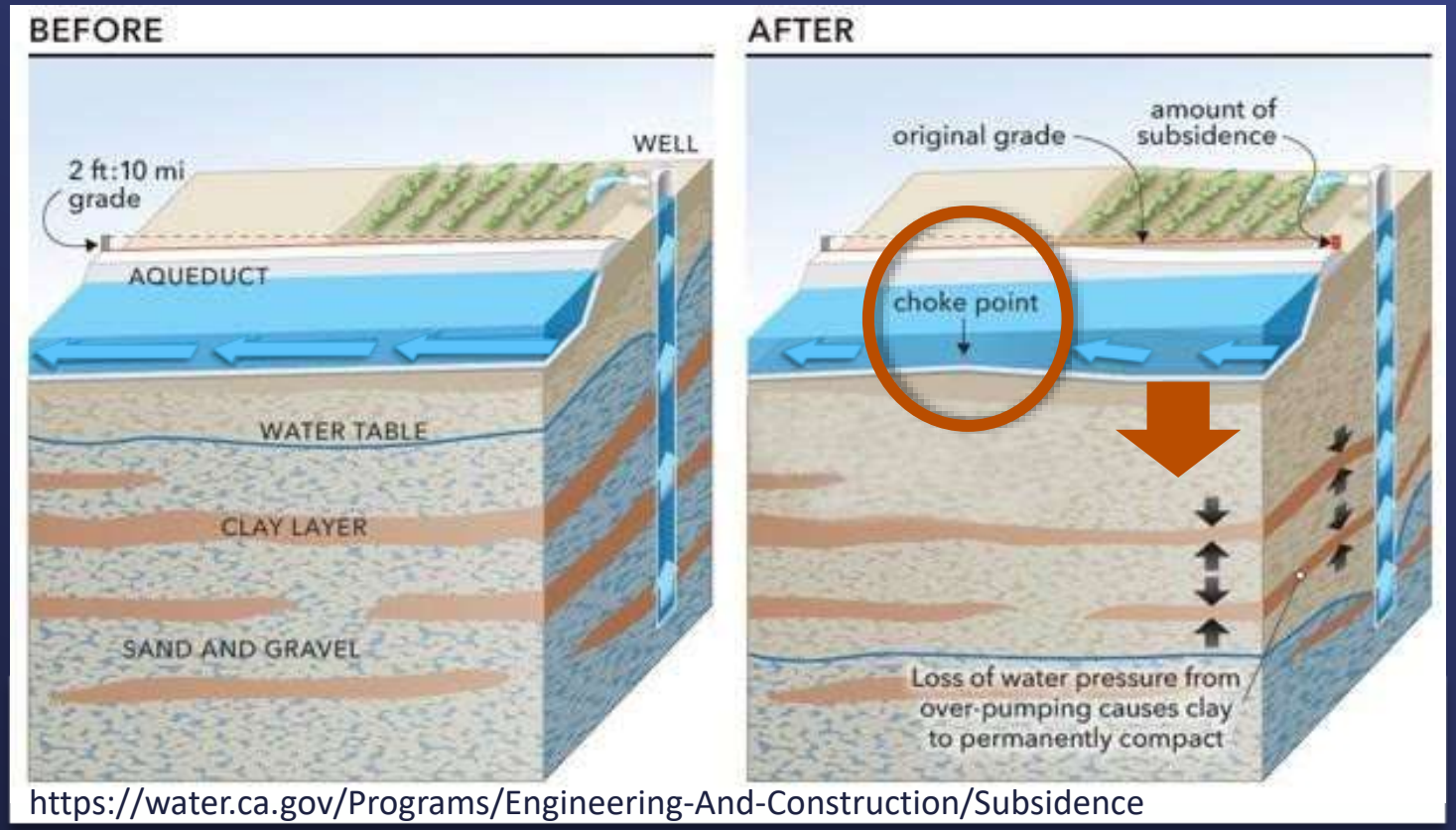
Inform the board of the recently published State Water Project Delivery Capability Report 2023 Addendum on Impacts of Subsidence, including background information and the recent analysis and planning undertaken by DWR and interested parties to address subsidence.

Next Steps

Staff will update the board in future months as new information is developed.

Subsidence Along the California Aqueduct

Mechanism for deep subsidence



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

Sinking of land caused primarily by over-pumping groundwater has reduced aqueduct flow capacity in areas

Subsidence "Bowls" Along the California Aqueduct

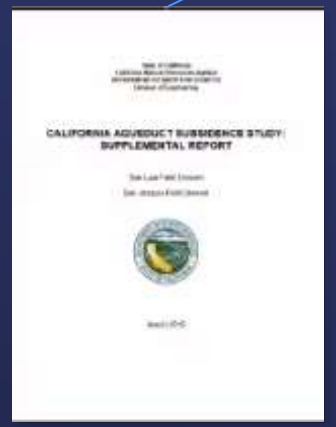
Recent Studies Have Identified the Need for Action

California Aqueduct Subsidence Program established at DWR

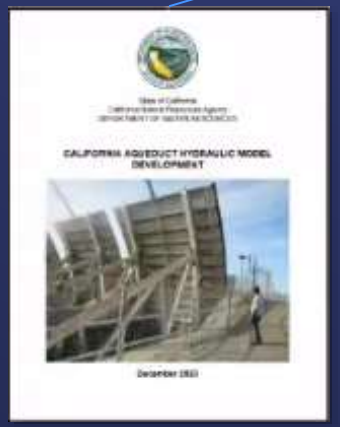
1968 California Aqueduct Operational

2017 California Aqueduct Subsidence Study

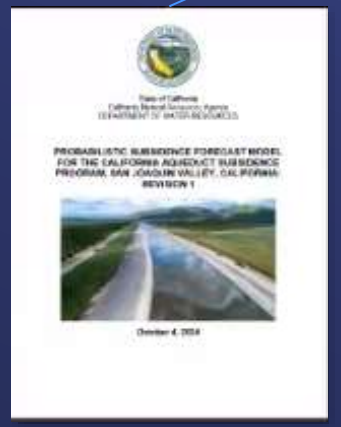
2019 Supplemental Report



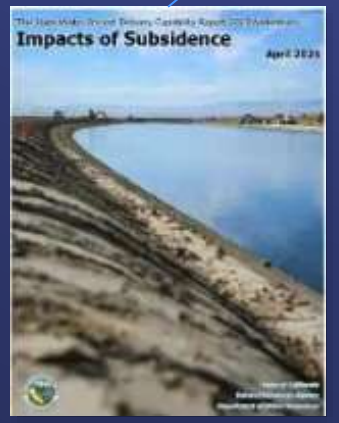
2023 Hydraulic Model



2024 Probabilistic Subsidence Forecast Model



2025 Delivery Capability Report 2023 Addendum



Current and Future Delivery Impacts without Action

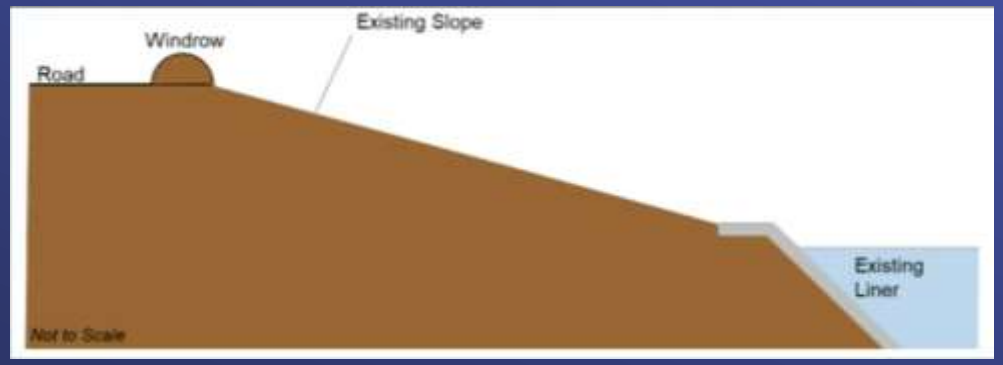
- Subsidence has reduced the current delivery capability of the SWP
  - DWR has responded by adapting the operating criteria of the San Luis Canal and California Aqueduct
- Modeling projects significant reductions in delivery capability without adaptations or infrastructure improvements

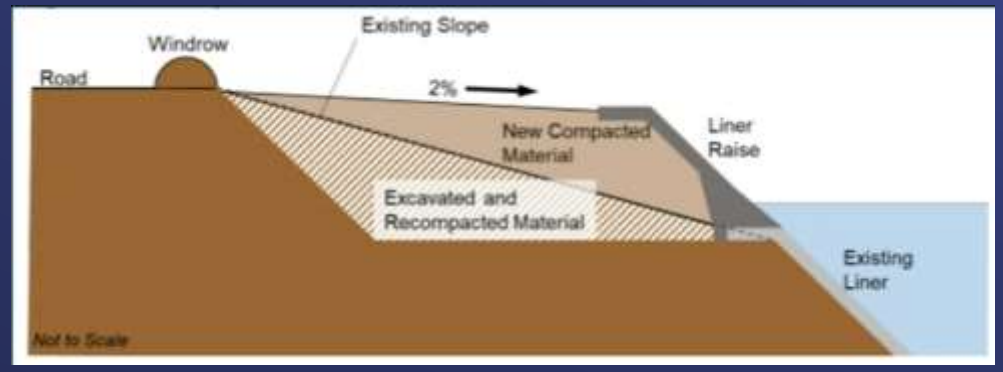
Reduction in SWP Table A Deliveries by 2043

6 to 84%

DWR Pursuing Near-Term Projects to Restore Some Capacity

- No regrets actions prior to long-term solution
- San Luis Canal improvements planned for 2028
  - ~27 miles of canal liner raise
  - Removal of subsided check structure
  - Estimated $32M cost
    - Joint-use facility cost share 45% CVP and 55% SWP



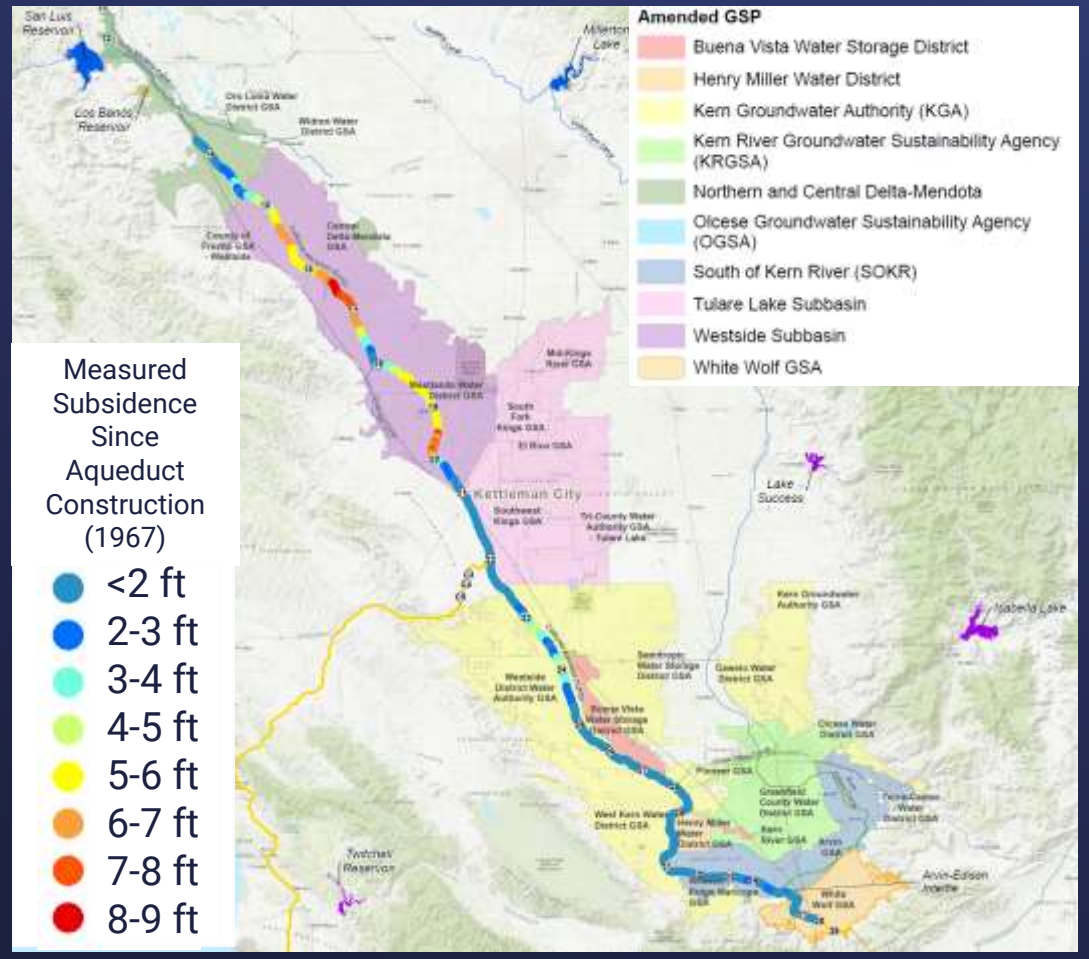


Long-Term Solutions and Focus

- DWR is evaluating long-term engineering solutions
  - Fix-in-place solution would restore aqueduct to original design parameters
    - Potential exposure: $3B cost to SWP contractors
- On-going collaboration among USBR, DWR and interested parties on alternatives
  - Various themes evaluated at May 2025 Value Planning Workshop
    - Reconstruct/raise
    - Bypass subsided areas
    - Adapt by changing water surface elevation
    - Incorporate in-line pumping plants
- Work with local partners to stop subsidence
- Work with local, state, and federal partners to secure funding

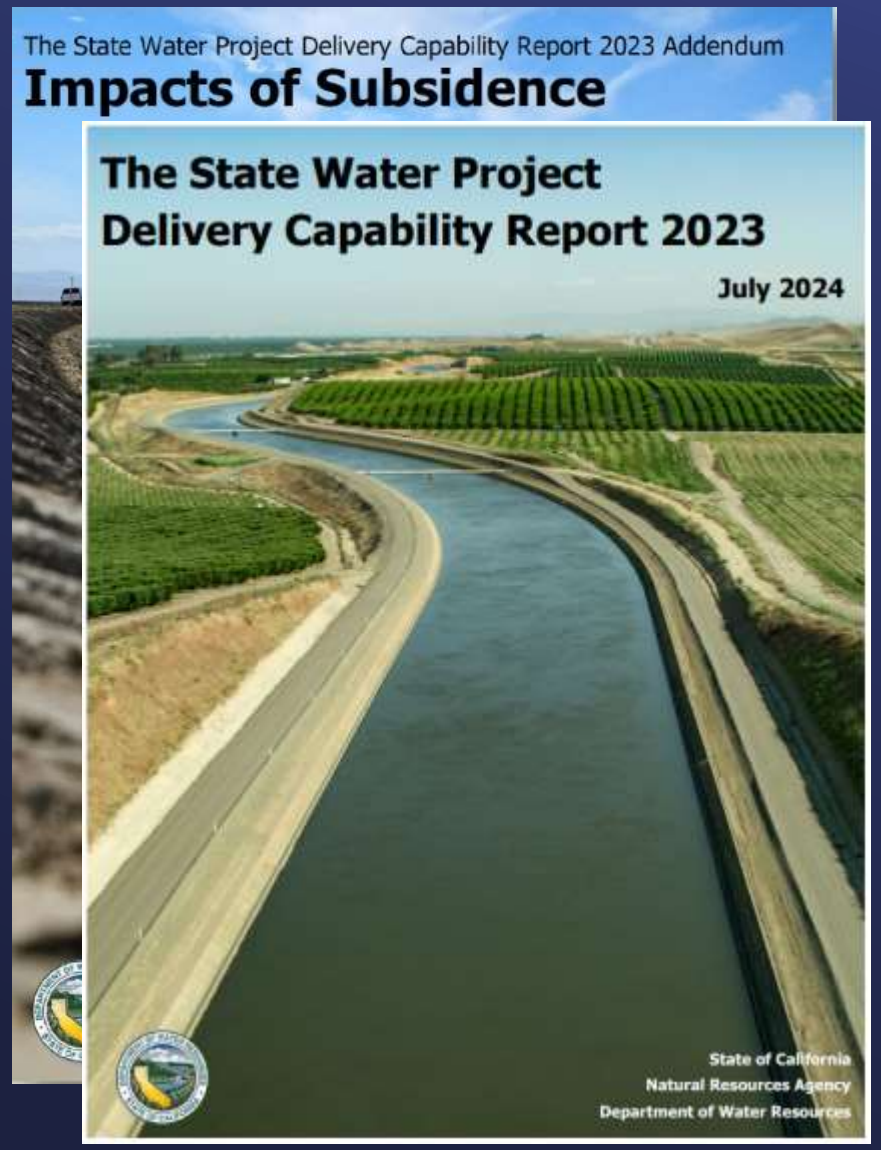
Sustainable Groundwater Management Act (SGMA) Prohibits Significant and Unreasonable Land Subsidence

Groundwater Sustainability Agencies along the California Aqueduct



- Metropolitan, DWR, and State Water Contractors submitted comments that the Westside Subbasin plan was insufficiently protective of the aqueduct
- Westside District Water Authority GSA in Kern County adopted groundwater extraction moratorium within 2.5 miles of the aqueduct

DCR 2023 Addendum is a Call to Action



- DWR recommends using the 2023 Delivery Capability Report to support long-term planning efforts, including the development of UWMPs
  - DWR has planned near-term fixes
  - DWR is committed to restore the conveyance capacity of the California Aqueduct

Next Steps

- Continue to coordinate with DWR and other parties on solutions to subsidence
- Update the Board on new developments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SOUTHERN CALIFORNIA
1928