Pacheco Reservoir Expansion Project

August 22, 2023

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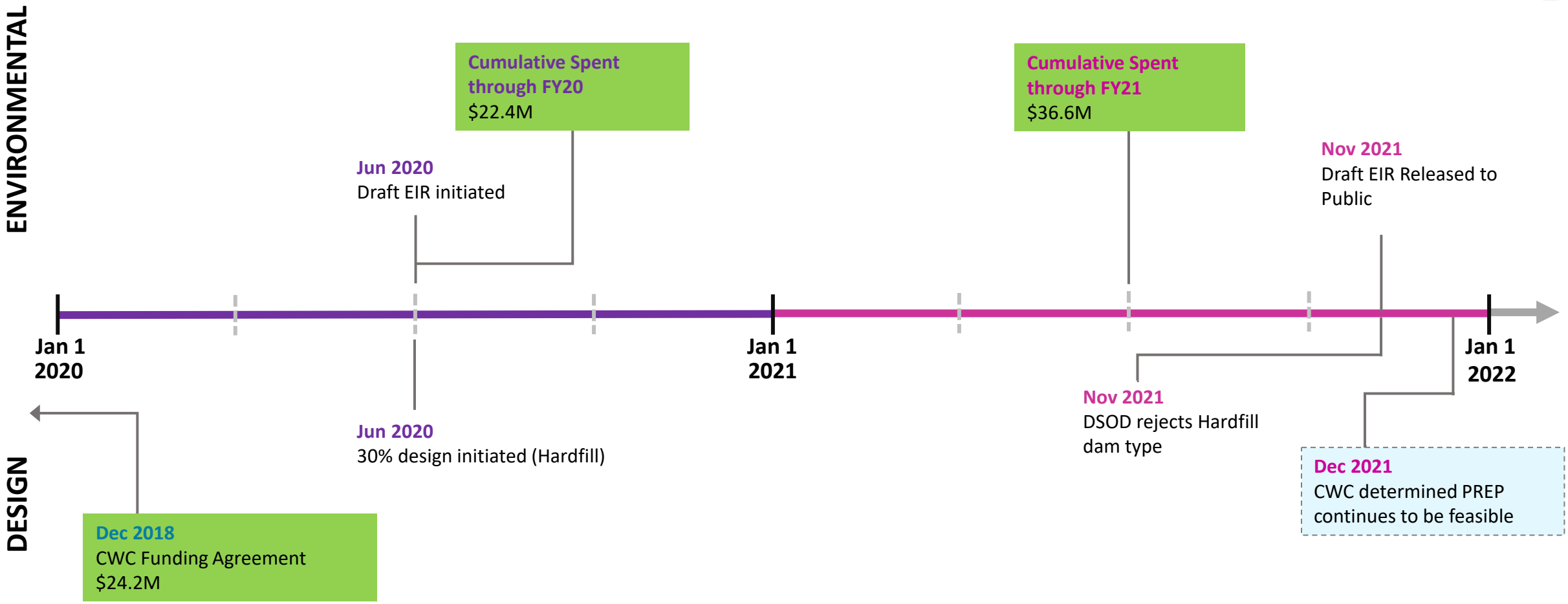
Timeline Updates

Environmental and Design Milestone Timeline



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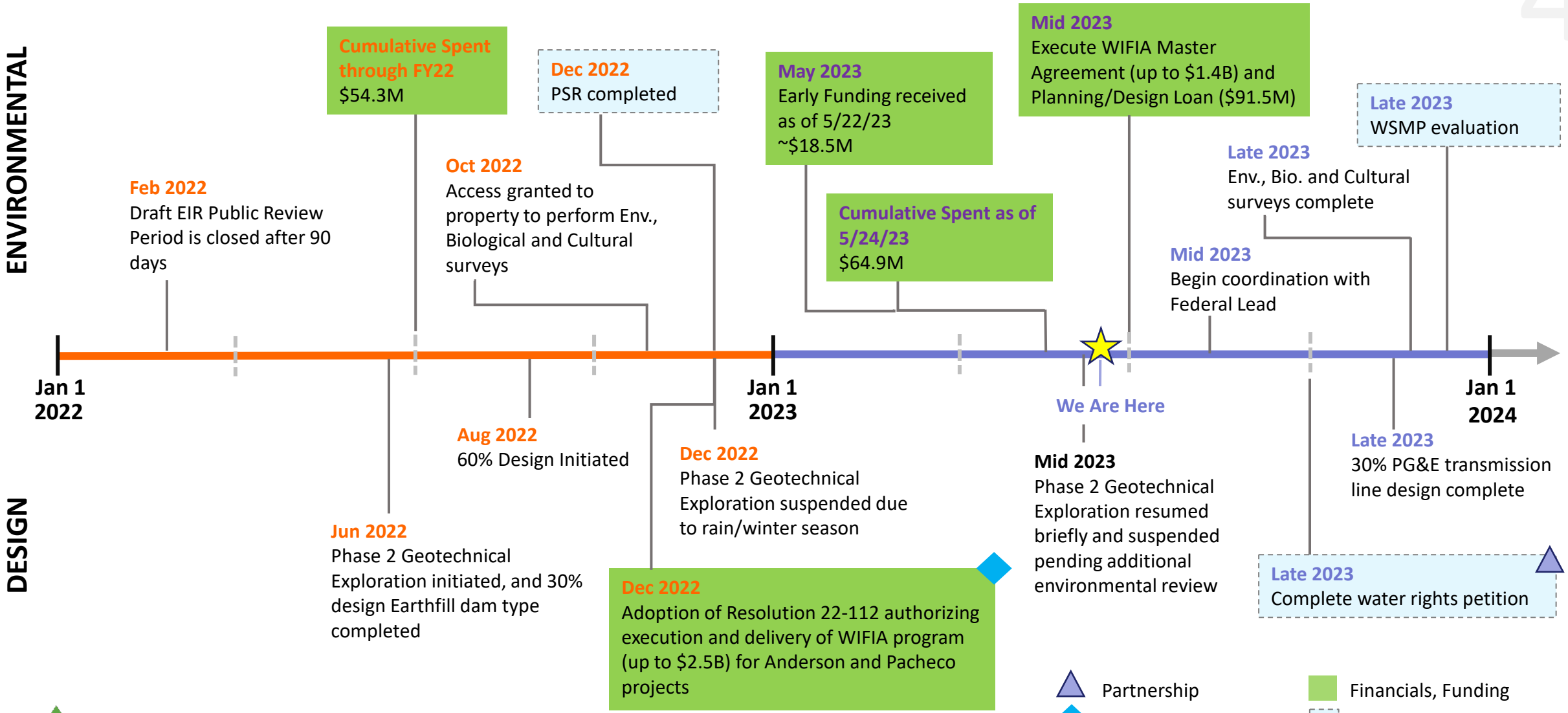
Partnership
Financials, Funding
Board Action Required
Non-Environmental, Non-Design
Recommended Board Interaction Milestone

Environmental and Design Milestone Timeline



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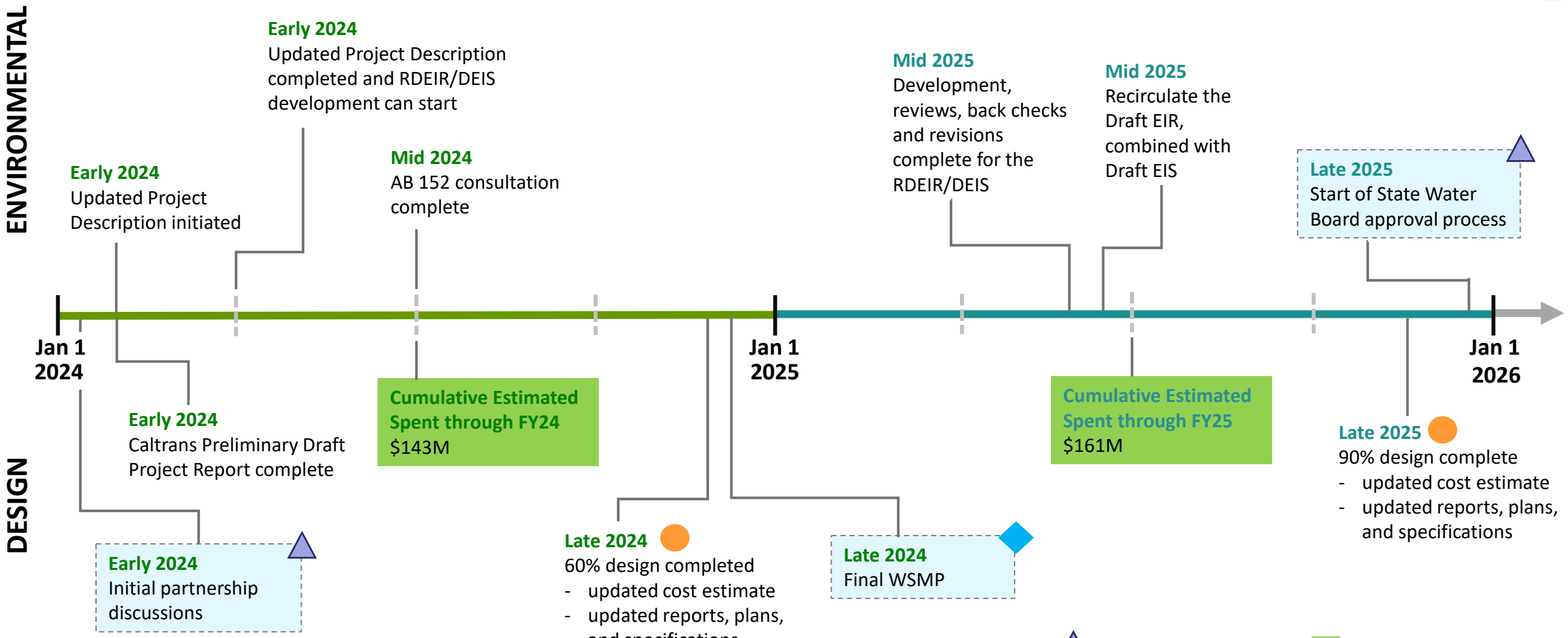
Environmental and Design Milestone Timeline



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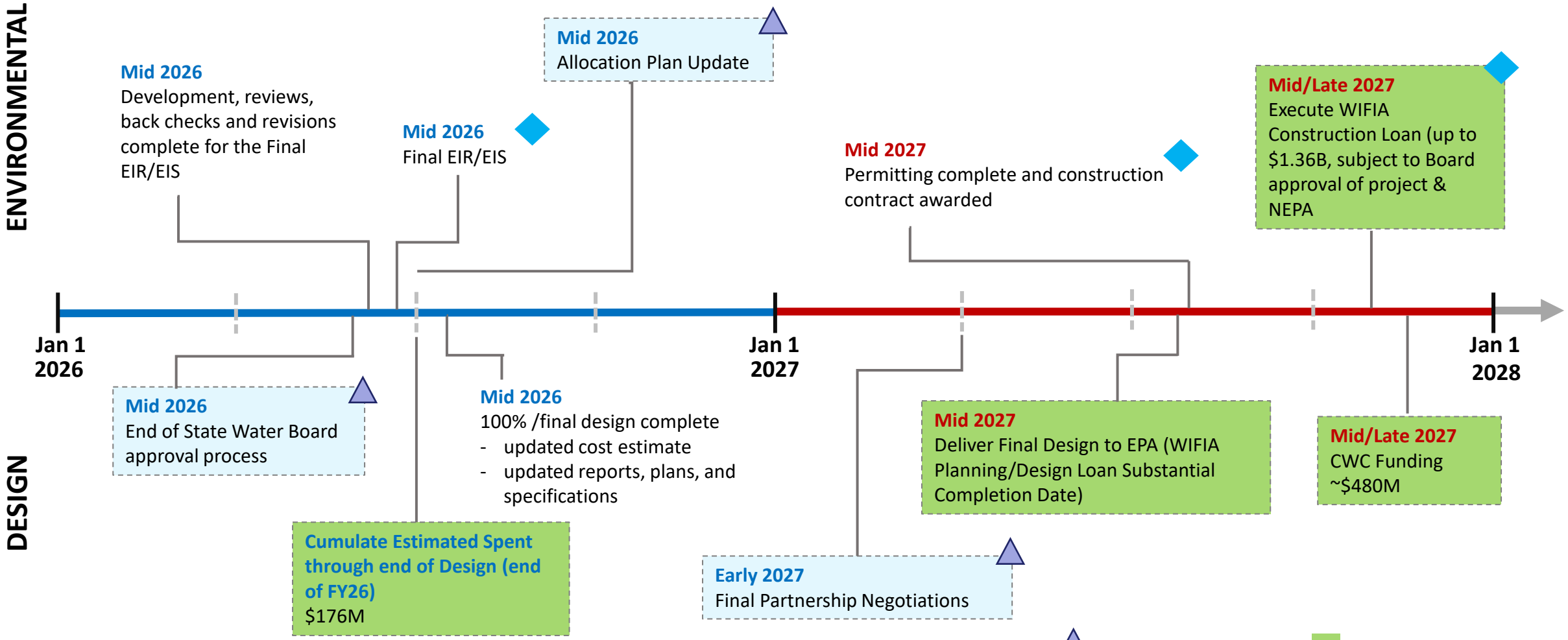
Environmental and Design Milestone Timeline



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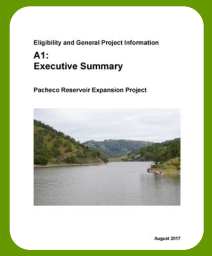
Question	Answer
1. Is the Pacheco EIR invalidated by the recent court decision regarding the geotechnical work?	No. The ruling invalidated only the Notice of Exemption for Phase 2 Geotechnical Investigations. The EIR is still in draft form and has not been certified by the Board. **Thus, the Pacheco Project EIR was not invalidated.**
2. What is the current status of the Pacheco EIR?	In response to project design changes and public comments on the Pacheco Draft Project EIR and to allow easier coordination of review for NEPA and CEQA, staff is working with the consultants to turn the draft into a joint NEPA/CEQA document, recirculate the revised draft EIR/EIS for public comments.

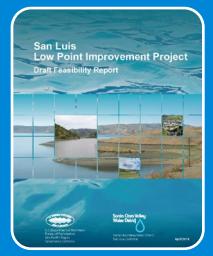
Question	Answer
3. What is the current cost estimate for the Pacheco project?	The FY 2024 CIP estimates total project cost of $2.78 billion, which increased from the FY 2023 CIP due to inflation factor. The estimated cost inclusive of financing costs is $3.27 billion net of the $504 million Proposition 1 Grant and assuming a 35% partnership level or $5.5 billion without partners.
4. Will the court ruling for geotechnical work cause significant delays in the project schedule and/or cost estimate?	At this time, we do not anticipate a significant delay in the substantial completion date for final design, which is targeted for July 31, 2027.
5. Have any other litigations been filed against the project besides the geotechnical investigation (Case #22CV399384)?	No.

Completed Public Feasibility Evaluations of Pacheco Reservoir Expansion



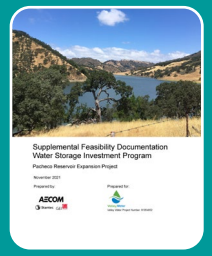
2017/2018 Water Storage Investment Program – Application & California Water Commission Review/Evaluation

- Evaluated water supply, emergency response, water quality and environmental enhancement benefits
- Highest ranked project of 13 evaluated by California Water Commission



2019 San Luis Low Point Improvement Project – Draft Feasibility Report

- Pacheco Reservoir Expansion Alternative maximized net economic benefits (benefits – costs)
- Highest ranking alternative of the 5 alternatives evaluated

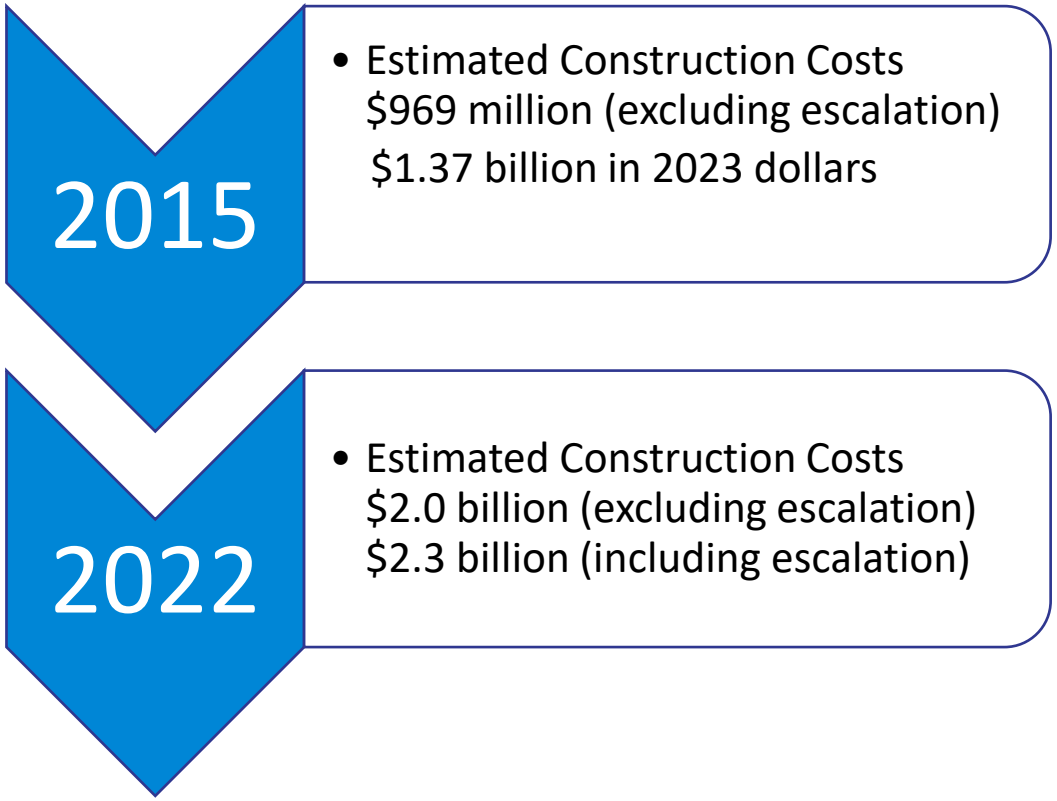


2021 Water Storage Investment Program – Feasibility Determination

- Evaluated water supply, emergency response, water quality and environmental enhancement benefits
- Project determined to be technically, economically, financially, and environmentally feasible

Construction Costs

- There has been significant inflation and cost escalation impacts to land values, construction costs, labor, materials and services between 2015 and 2023
  - CPI has increased by 31%
  - Reclamation Construction Cost Trend increased by 40%
  - USDA land values have increased by 49%
- Those impacts have significantly affected both Project costs and value of public and non-public benefits



Lost Opportunity Costs

Lost Opportunities

- Securing emergency water supplies for Valley Water including outages and droughts
- Improving habitat for threatened South-Central Coastal California Steelhead in Pacheco Creek
- Improving drinking water quality for Valley Water customers
- Reducing flood flows and related flood damages, including flooding of disadvantaged communities
- Addressing dam safety issues at existing North Fork Dam
- Funding for Public Benefits from California Water Commission

Lost Opportunity: Securing Emergency Water Supplies for Valley Water

Pictured above: Levee failure at Jones Track during non-flood period

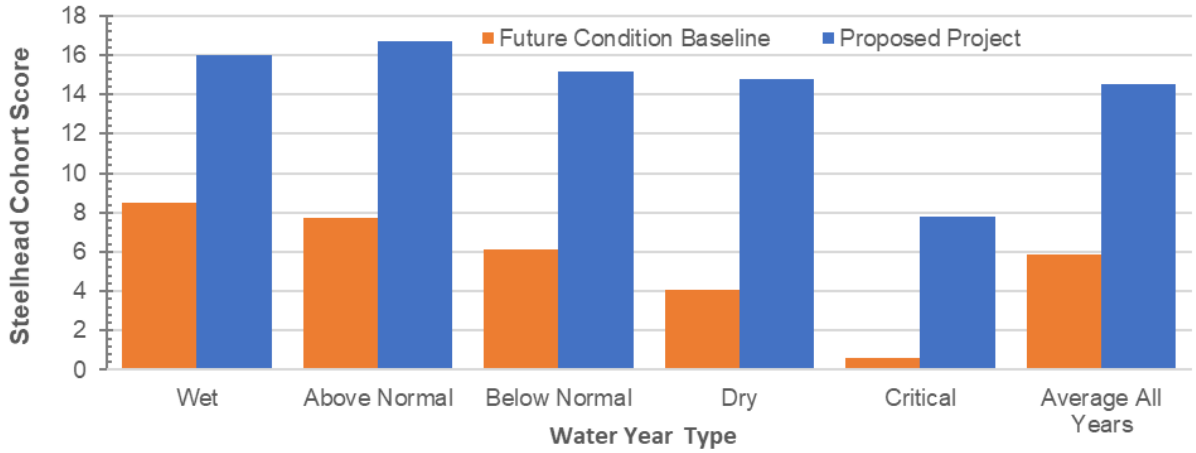
- Emergency water supply developed for Delta export outages, drought periods, and other emergencies
- 45% of Valley Water supplies are CVP/SWP allocations
- Estimated probability that either a large flood or seismic event will impact the Delta during the next 50 years is approximately 2 in 3
- Long-term disruption of CVP and SWP exports from Delta due to salt water intrusion at pumps

Average emergency water supply developed through reservoir expansion: 99,900 acre-feet

Net Present Value: $ 903 million (May 2023 $)

Lost Opportunity: Improving Habitat for Threatened South-Central Coastal California (SCCC) Steelhead in Pacheco Creek

- SCCC steelhead under threat of extinction within the next 50 years without serious intervention
- Pajaro, Salinas, and Carmel River watersheds have experienced more than 90 percent declines in adult run size
- Uvas Creek supports only self-sustaining population – subject to catastrophic events
  - Important to establish another population



Comparison of Without- and With-Project Steelhead Cohort Scores for Pacheco Creek

Steelhead Cohort Score: An index of Pacheco Creek's ability to support SCCC steelhead through all life stages, based on the 14-month period in which a cohort is expected to remain in the creek

Through improved flow and temperature conditions in all year types, expansion of Pacheco Reservoir more than doubles the Steelhead Cohort Score

Net Present Value: $1.7 billion (May 2023$)

Lost Opportunity: Improving Drinking Water Quality through Avoiding Use of Algae-Laden Water Supplies

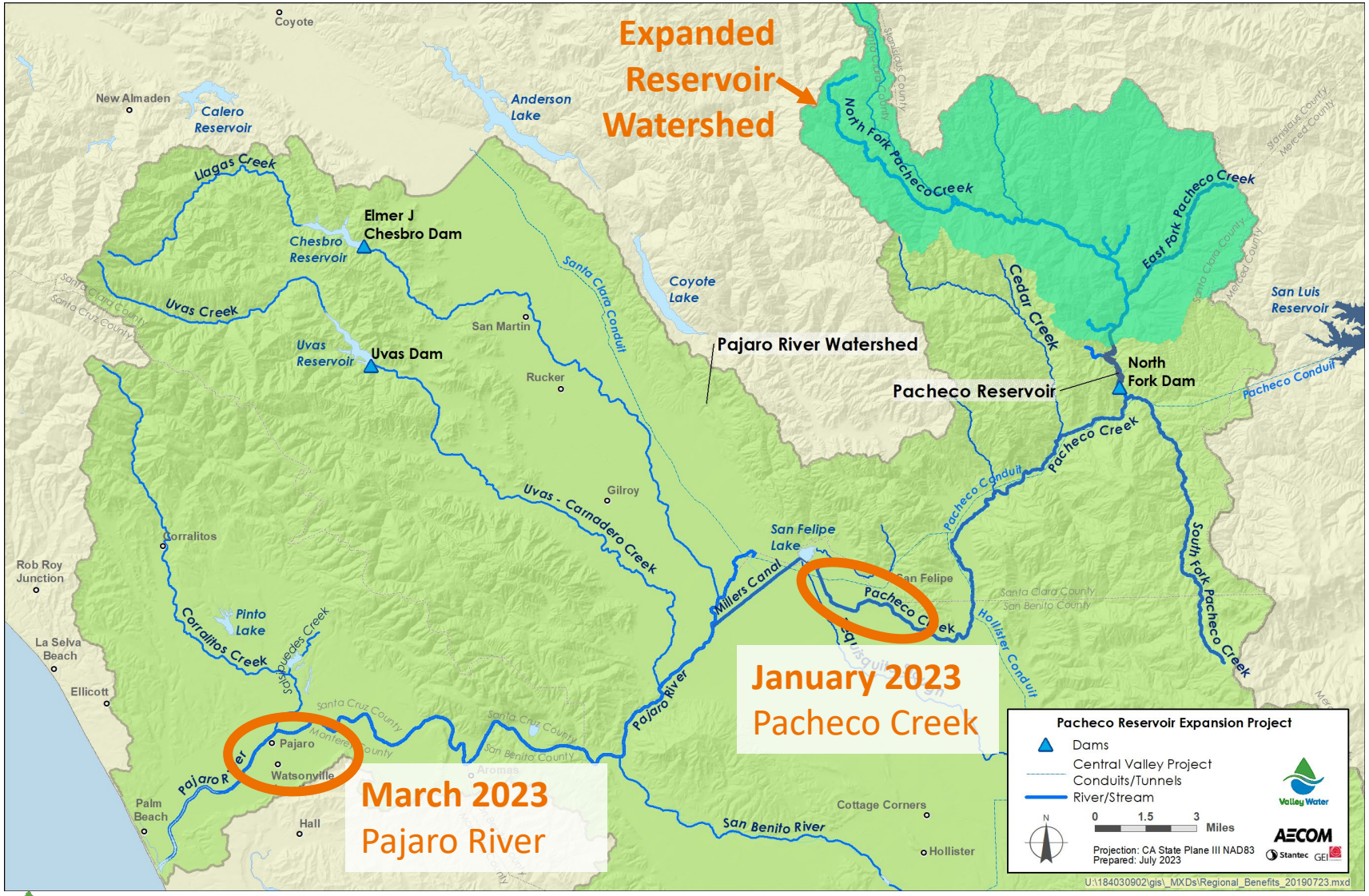
- Quality of San Luis Reservoir water impaired during low reservoir levels due to algae growth
- Occurs when San Luis Reservoir levels drop below 300,000 acre-feet
- Reduces system flexibility - San Felipe Division intakes are at higher elevations than intakes for California Aqueduct/Delta-Mendota Canal (i.e., conveyance for other CVP and SWP users)

Algae growth within San Luis Reservoir

Through improved operational flexibility, expansion of Pacheco Reservoir avoids use of algae-laden San Luis Reservoir water supplies during low point events (97% reduction)

Net Present Value: $143 million

Lost Opportunity: Reducing Flood Flows and Related Flood Damages



2023 Flooding Events

- Expanded Pacheco Reservoir would not have dedicated flood space but would provide incidental flood water storage
- Following 2021-2022 drought conditions, if in place, expanded Pacheco Reservoir anticipated to have substantial storage space available during 2023 flood season

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January 2023 Flooding Pacheco Creek

January 2023 Floods along Pacheco Creek

First responders rescued 24 people and four animals

- Flooding along Pacheco Creek near Lovers Lane
- 15,800 cfs peak flow at Dunnville
- North Pacheco Creek largest tributary to Pacheco Creek

Pacheco Reservoir Expansion reduction in Pacheco Creek flows ≈ 7,270 cfs (15,800 cfs to 8,530 cfs)

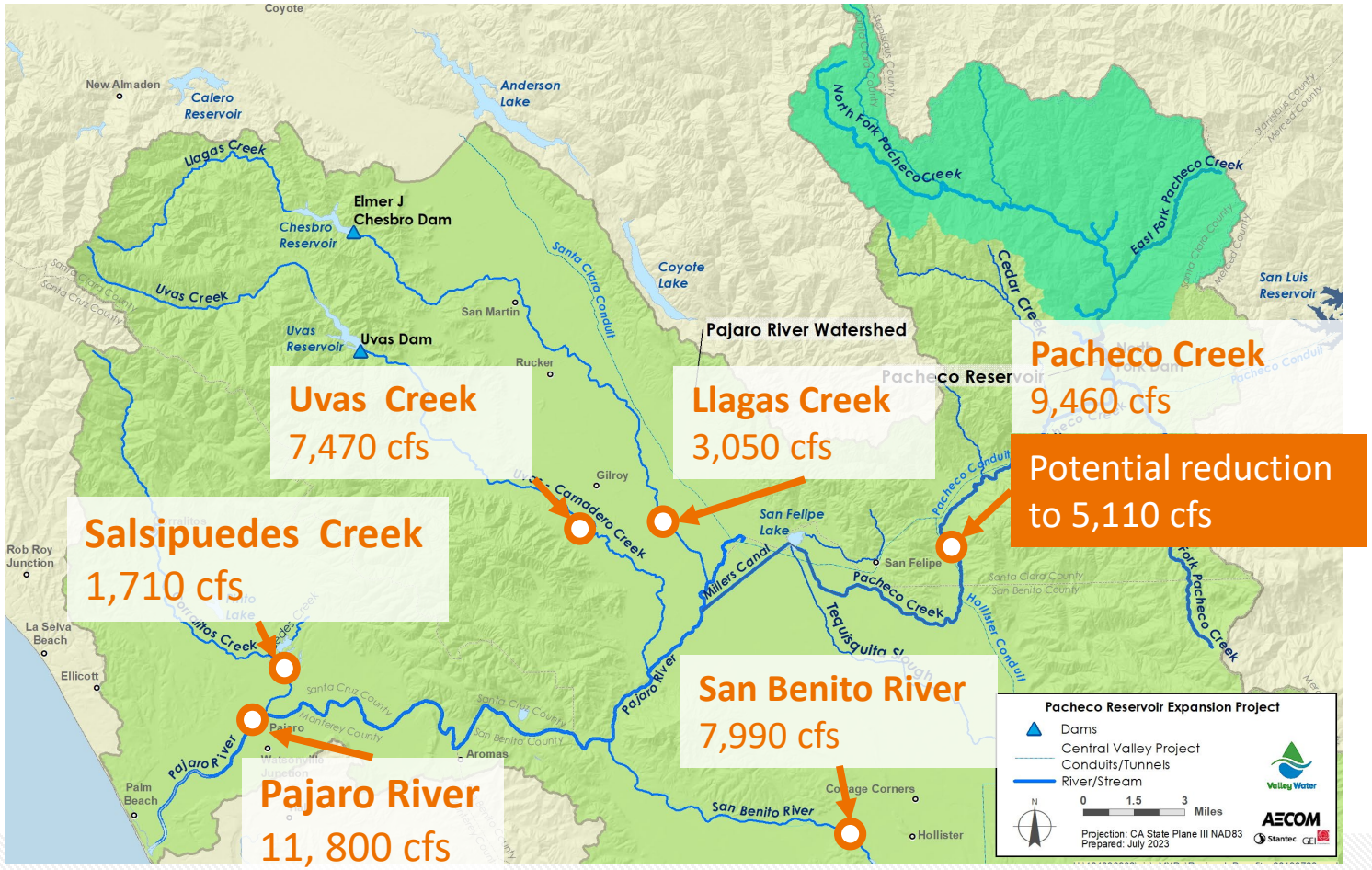
- **46% reduction of peak flows**

March 2023 Flooding Pajaro River

March 2023 flooding along Pajaro River

- Levee Failure along Pajaro River near Watsonville
- 11,800 cfs peak flow at Watsonville
- Pacheco Creek largest tributary

Pacheco Reservoir Expansion reduction in Pacheco Creek flows ≈ 4,360 cfs (9,460 cfs to 5,110 cfs)



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Lost Opportunity: $504 million for Public Benefits from California Water Commission

Emergency Response: Improve Resiliency and Emergency Water Supply

66% chance of Delta earthquake in next 50 years; **45%** of Valley Water water supply imported from Delta

Evaluated Public Benefit: 86,000 to 107,000 acre-feet of emergency supply for Valley Water

Environmental Improvement: Restore Federally Threatened SCCC Steelhead

90% population decline in Pajaro watershed from 1960s to 1990s

Evaluated Public Benefit: 146% to 162% increase in Steelhead Cohort Score (index of Pacheco Creek's ability to support SCCC steelhead through all life stages)

Environmental Improvement: Refuge Water Supply

90% of Delta watershed wetlands have disappeared

Evaluated Public Benefit: 2,000 acre-feet during below normal water years to Incremental Level 4 wildlife refuges

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Lost Opportunity: Addressing Dam Safety Issues at Existing North Fork Dam

Pictured above: Existing Damaged Spillway of North Fork Dam

- Existing North Fork Dam under Department of Safety of Dams (DSOD) restricted-operation due to spillway deficiencies
  - Initial letter identifying need for spillway repairs issued in 2017
  - Construction of spillway repairs not initiated to date

Case Study: 2023 Water Year

Lost Opportunity to Secure Water Supply: 2023 Water Year Case Study

42,900 acre-feet	**Natural Inflow** • Increased capture of natural inflow by expanded reservoir
58,000 acre-feet	**SWP Article 21 and CVP Section 215** • Increased capture of unstorable CVP and SWP water supplies and storage within expanded reservoir
20,200 acre-feet	**San Luis Reservoir Spill** • Rescheduled CVP water in San Luis Reservoir lost to spill

Lost Opportunity: Up to $170 million from Captured Water Supplies in Singular Year (2023 Case Study)

Value of Captured Water Supply within Expanded Pacheco Reservoir (May 2023 $)

Water Year Type	Natural Inflow ($)	SWP Article 21 and CVP Section 215 ($)	Rescheduled CVP Water in San Luis Reservoir Lost to Spill ($)	Total ($)
Wet	$28,802,000	$38,938,000	$13,596,000	$81,338,000
Above Normal	$29,976,000	$40,525,000	$14,150,000	$84,652,000
Below Normal	$37,213,000	$50,309,000	$17,567,000	$105,090,000
Dry	$42,396,000	$57,316,000	$20,014,000	$119,728,000
Critical	$60,098,000	$81,248,000	$28,370,000	$169,719,000

An expanded reservoir would be operated to capture water in wetter years and carry-over the water to drier periods

Additional Storage Addresses Climate Extremes – Drought and Flood Periods

- Recent climate extremes highlights climate variability
  - 2 of the wettest years of record: 2017 and 2023
  - 2 of the driest periods of record: 2014-2015 and 2021-2022

Water Year 2023 highlights need for storage: capture flood and wet year water for use during future drought periods

QUESTIONS

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Clean Water • Healthy Environment • Flood Protection