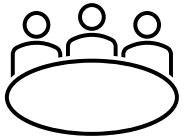
Desalination Executable Solution and Logistics (DESAL) Plan

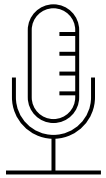
Community Engagement Sessions – April 20 and 21, 2026

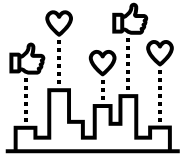
www.slocounty.ca.gov/DESAL

Session Purpose



- Inform and get your input on our region's water resources
- Share progress made on developing potential desalination alternatives and evaluation
- Understand key tradeoffs, constraints and considerations
- Ask questions and engage directly with the project team and provide input before the study is finalized





Please note this presentation is being recorded and will be posted at: slocounty.ca.gov/desal

Tonight's Session Agenda (Approx. 2 hrs.)

- Introductions and Purpose (5 min.)
- History of water planning in region and creating water resilience (10 min.)
- Overview of Desalination USBR Feasibility Study (20 min.)
- Q&A for General Clarifying Questions (10 min.)
- Breakout Station Framing and Overview (10 min.)
- Station Rotations (50 min. total; 15 min. at each station)
- Closing Remarks and Next steps (15 min.)

Introductions

- **Moderator**:
  - Carolyn Berg, Koble Collaborative
- **Presenters**:
  - Courtney Howard, County of SLO
  - Lydia Holmes, Carollo Engineers
- ***Technical Team:***
  - Angela Ford, County of SLO
  - Joey Steil, County of SLO
  - Anthony Cemo, Carollo Engineers
  - Dan Heimel, Confluence Engineering Solutions
  - Carolyn Groves, Dudek

- **Breakout Table Partner Support:**
  - North Coast Meeting:
    - Shawna Scott, City of SLO
    - Ron Munds, Los Osos CSD
    - Jim Green, Cambria CSD
  - South County Meeting:
    - Greg Ray, City of Grover Beach
    - Shane Taylor, City of AG
    - Ray Dienzo, Nipomo CSD

Ground Rules

- Your voice matters – please participate!
- Be respectful
- Share airtime
- Stay on topic
- Keep an open mind

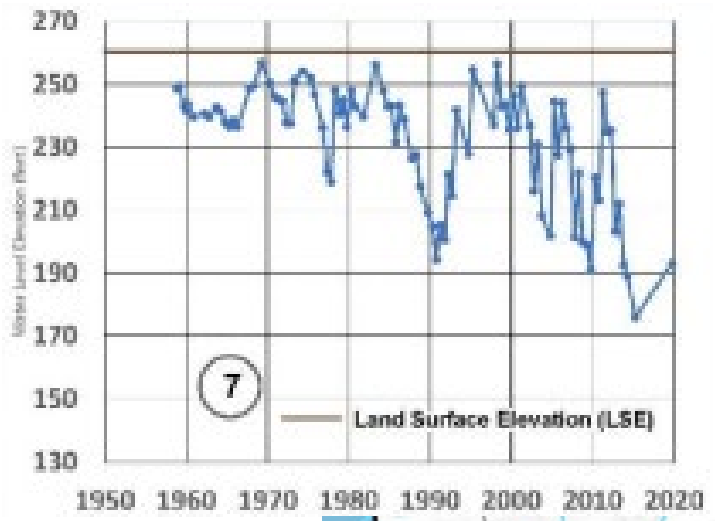
Throughout the presentation, please write questions on 3x5 card and hand to Staff member. We hope to answer a few questions before the breakout station discussions.

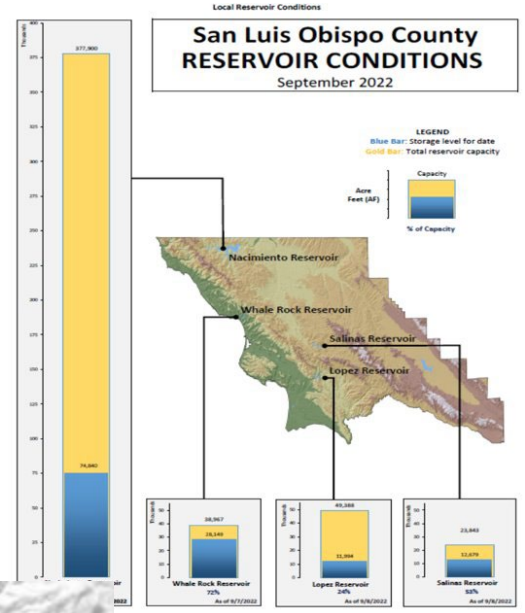
History of Water Planning and Creating Regional Resilience

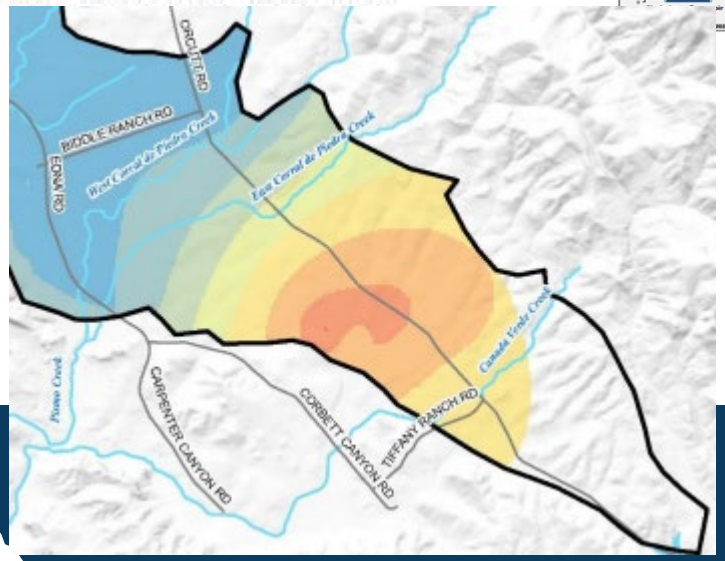
Our Region's Legacy of Building Water Resiliency

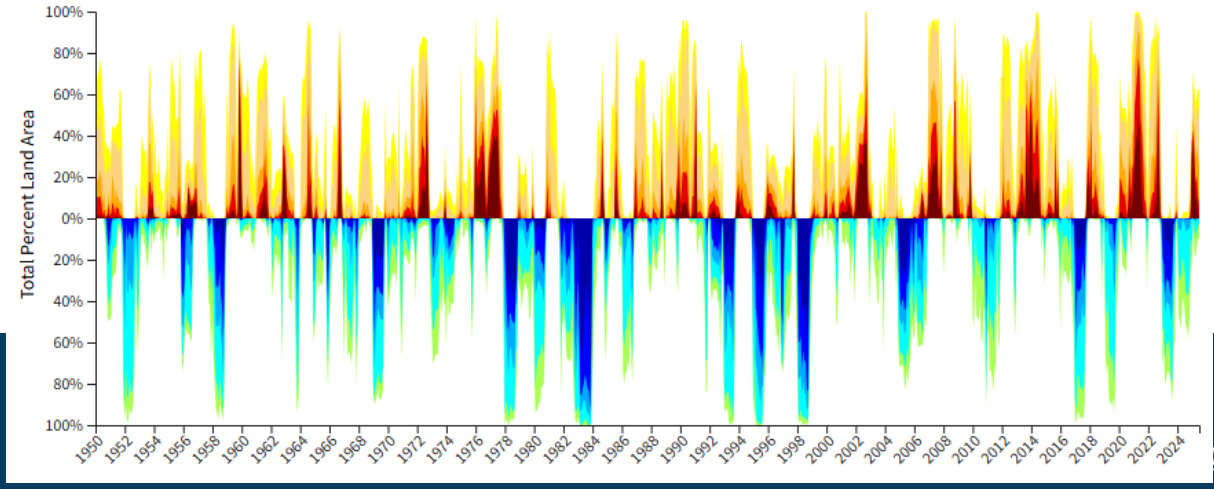
- Monitoring conditions
- Planning and responding to changes
- Implementing projects for reliable water supply

Changing Conditions Drive New Supplies









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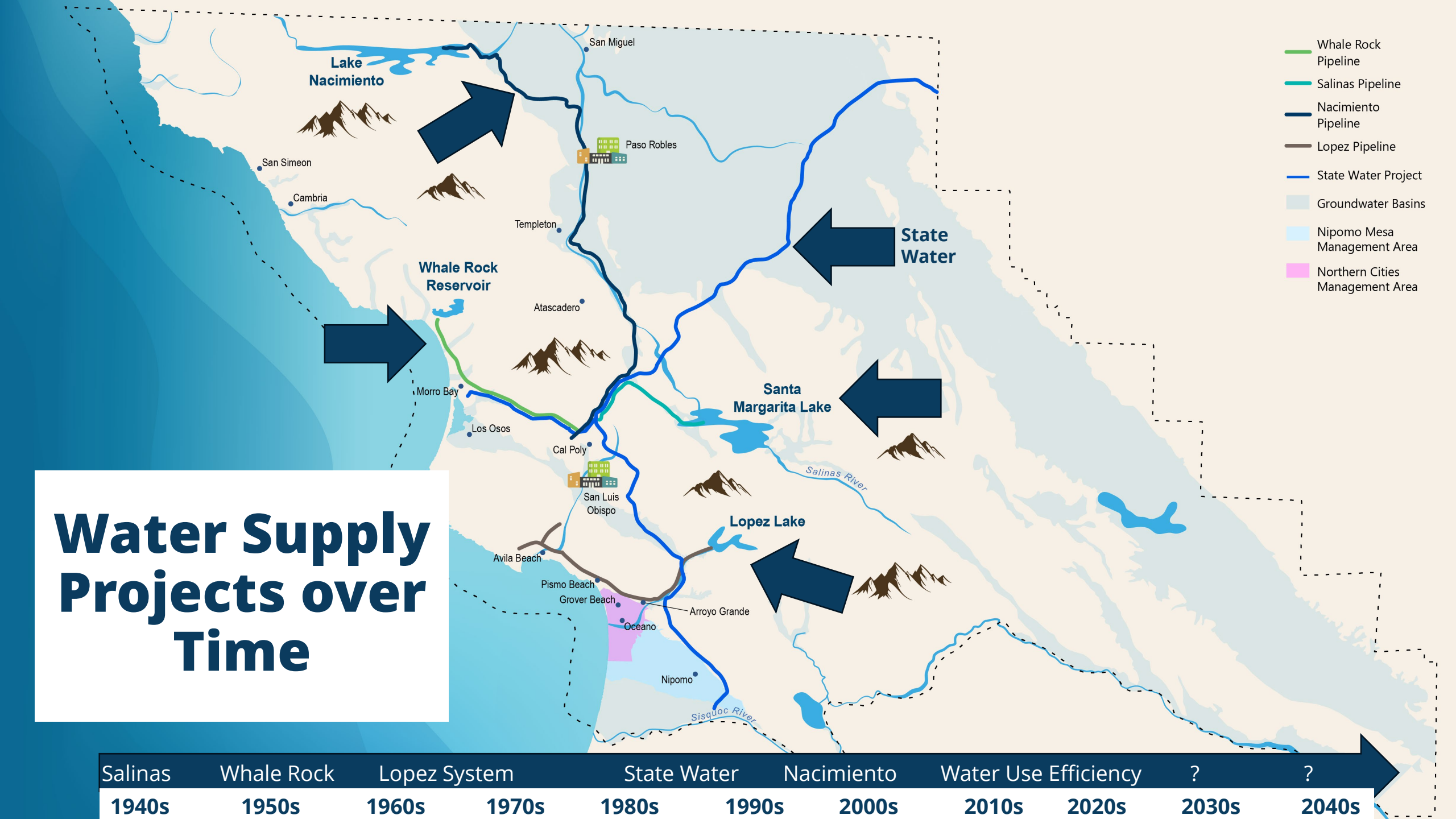


Water Supply Projects over Time

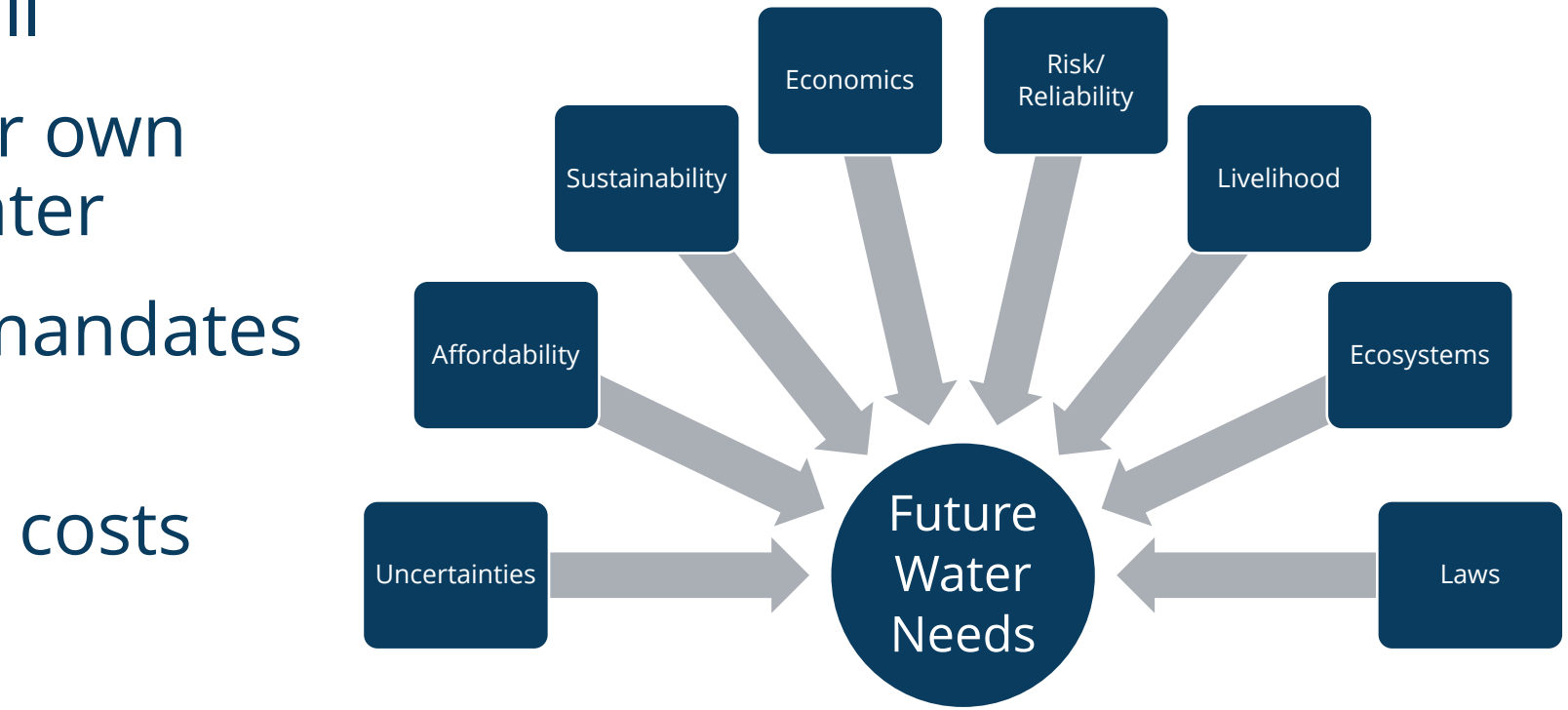
Salinas	Whale Rock	Lopez System		State Water	Nacimiento	Water Use Efficiency	?	?
1940s	1950s	1960s	1970s	1980s	1990s	2000s	2010s	2020s	2030s	2040s

Regional Water Supply Projects Take Decades

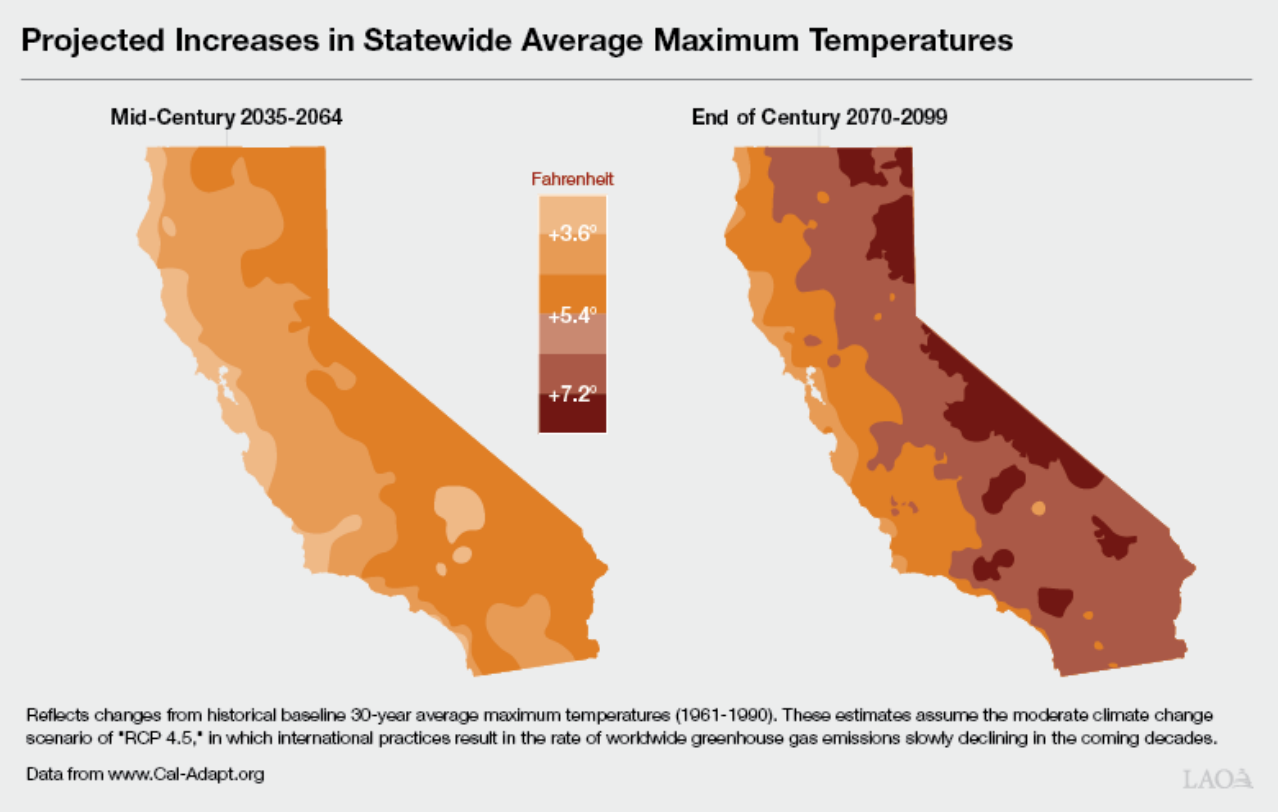
State Water	1960s	1990s	1997
Nacimiento	1950s	2000s	2011
Los Osos Recycled Water	1980s	2000s	2016

Our Opportunities and Challenges Today

- Water is vital for all
- Everyone has their own perspective on water
- Changing needs/mandates
- Need to balance risk/reliability and costs

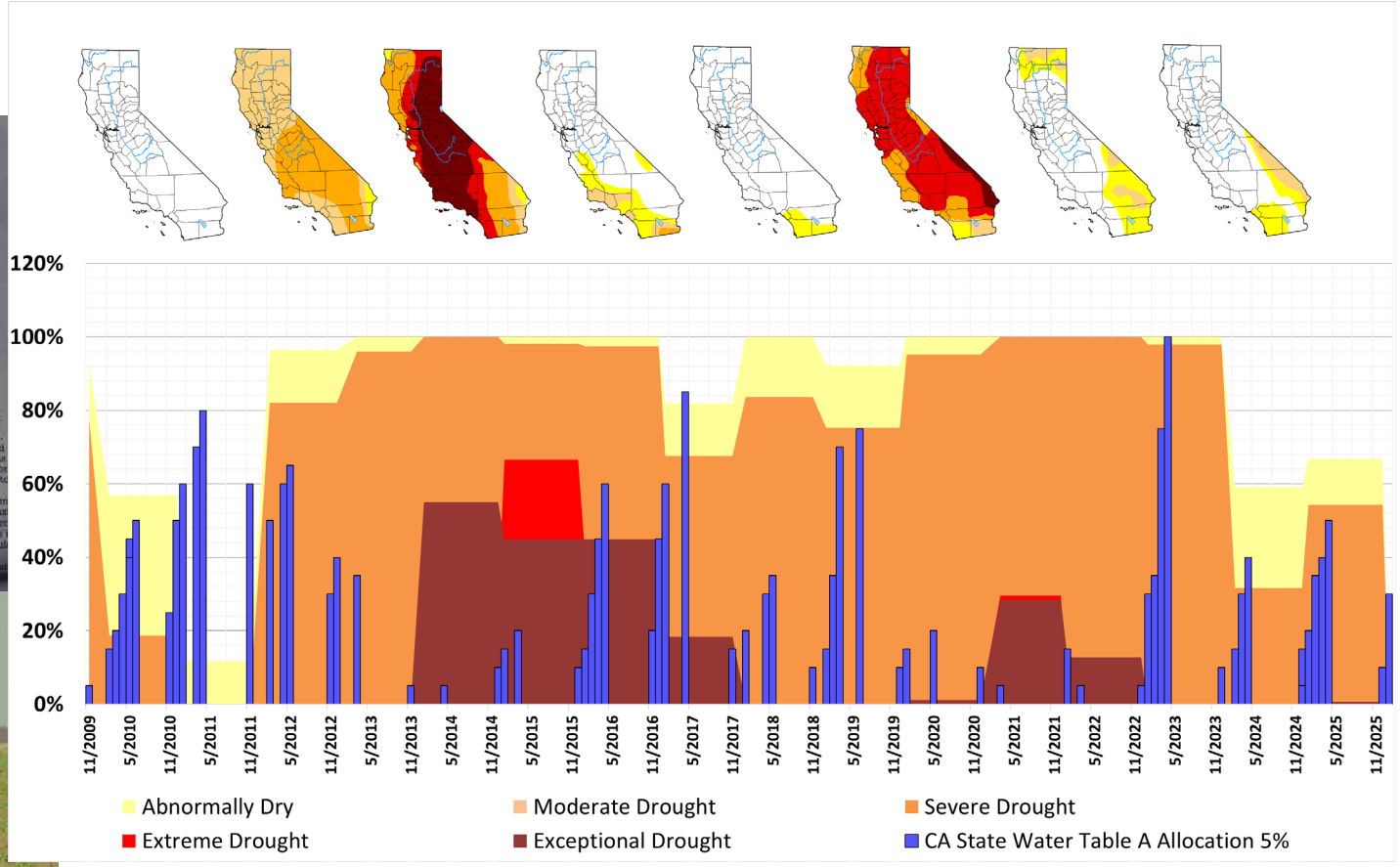


Optimize Existing Resources and Planning for the Future



- Need to be ready if need more water:
  - Water use efficiency
  - Recycled Water
  - Optimize use of surface and ground waters
  - Ocean desalination

Our Supplies are Largely Dependent on Rainfall



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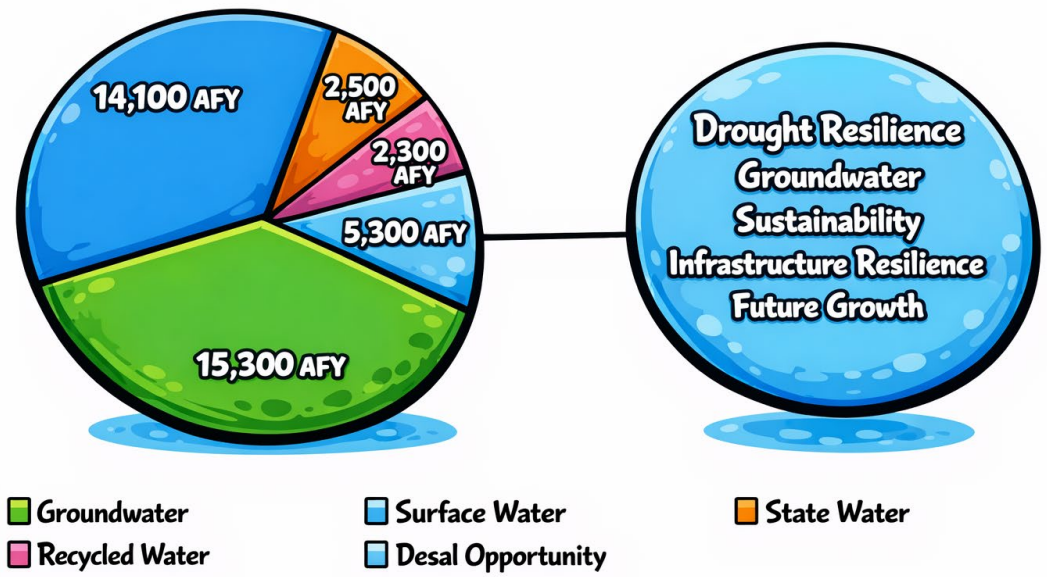
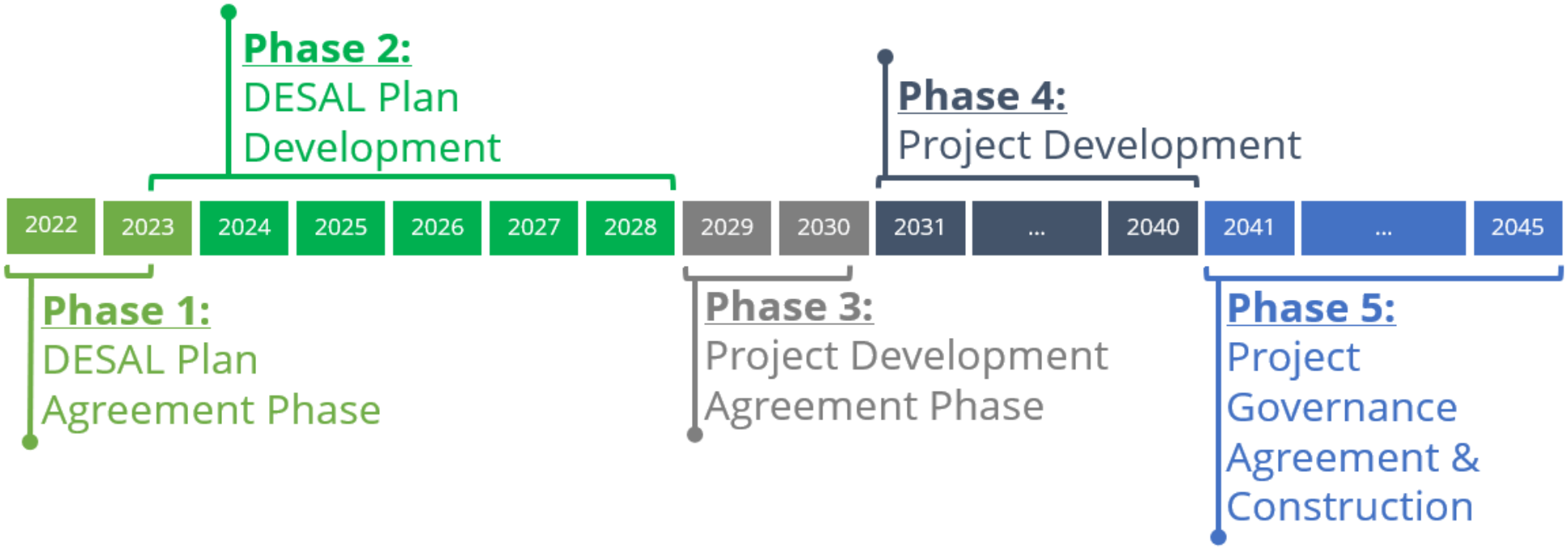
Needs for Considering Alternative Supplies

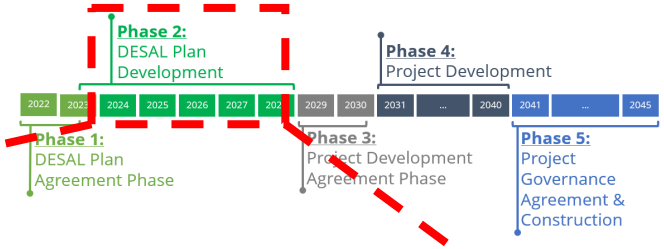


- Drought cycles projected to increase in frequency and duration
- SGMA requires cut back of groundwater use
- Aging infrastructure leads to unreliability
- Future growth is mandated by CA
- Time to implement is long… need to start planning now

SLO DESAL is a Long-Term Effort



DESAL Plan Scope



Phase 2: DESAL Plan Development

2024 | 2025 | 2026 | 2027 | 2028 | 2029

Phase 2a

(awarded grant scope)

- District procure consultant & implement Public engagement
- Identify alternatives, vet, cost and rank
- Select short-list to further pursue

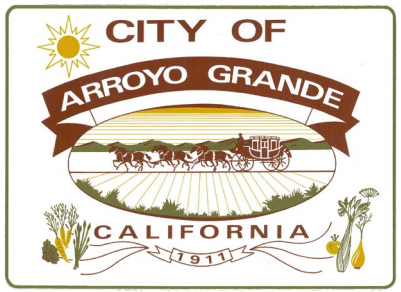
Phase 2b

(outside grant scope)

- Conduct more detailed studies and analysis of short-list of projects
- Rank and select preferred project

First Decision Point

DESAL Plan Partners



Golden State
Water Company

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Overview of USBR Feasibility Study

What is Seawater or Ocean Desalination?

Transformation of seawater into drinking water through treatment

Typically use Reverse Osmosis treatment

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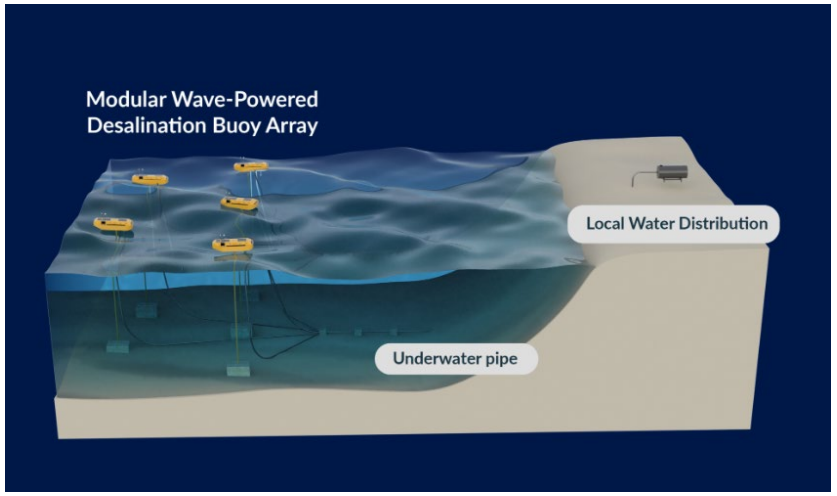
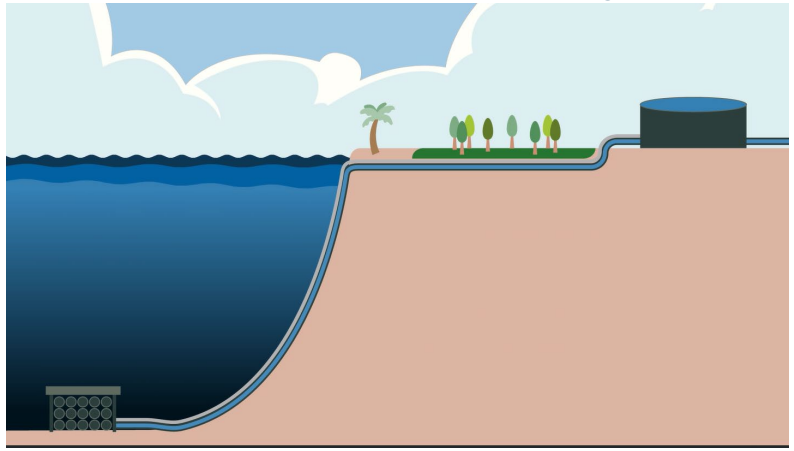
Alternative Technologies

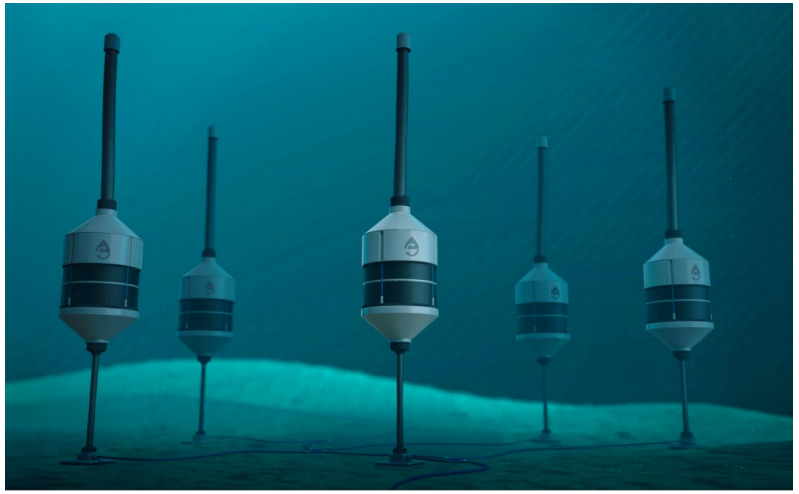
- All Use RO
- None currently permitted in CA
- Not at full scale operation
- Unable to determine costs at this time



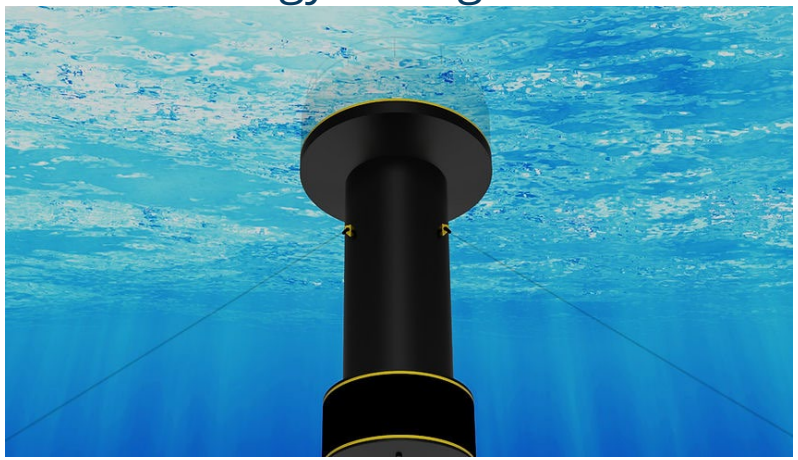
Wave Powered Desal Buoys



Deep Sea Plant, using depth for energy savings



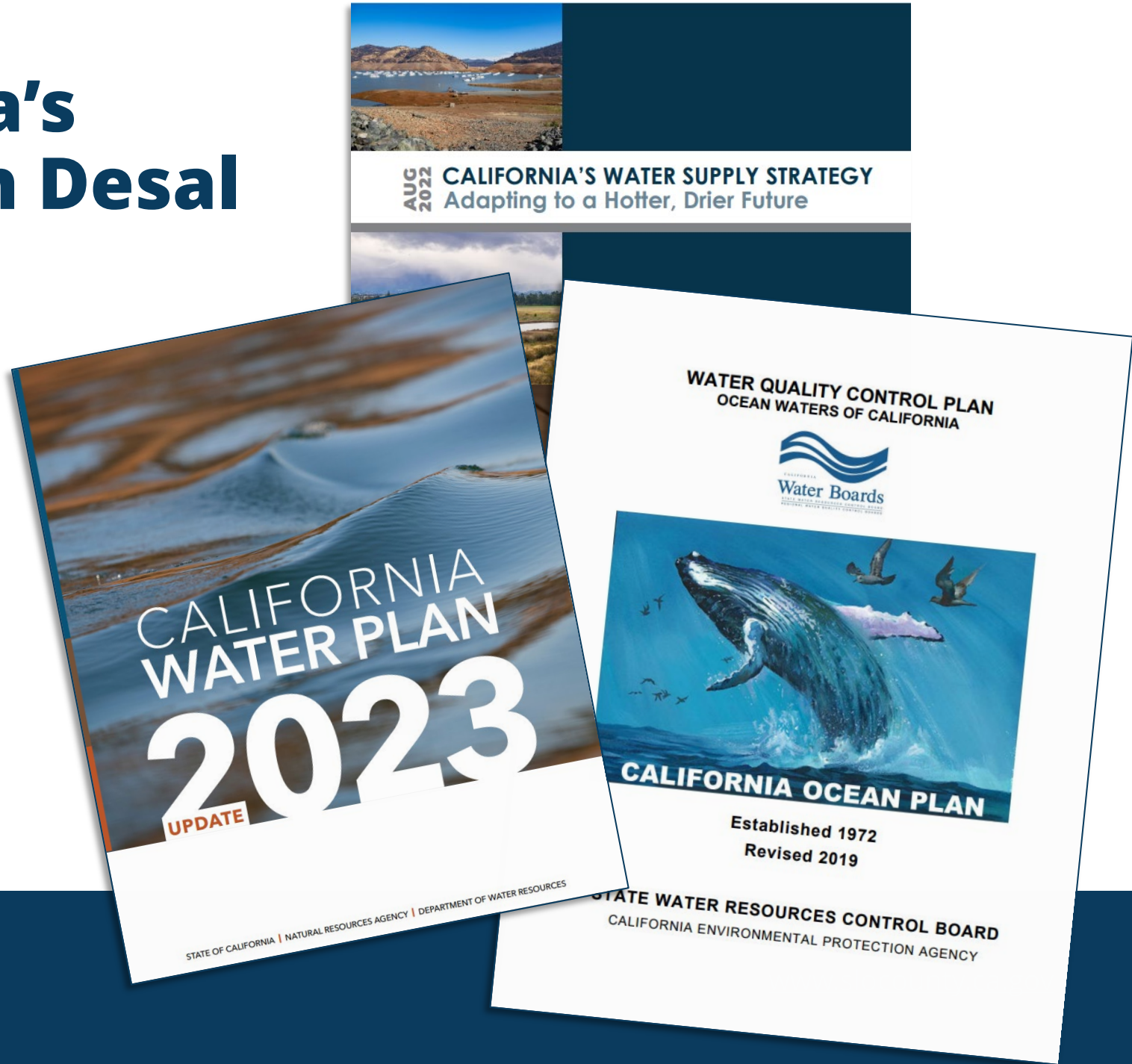
Deep Sea Buoy, using depth for energy savings



Surface Buoy with Low-impact intake

State of California's Position on Ocean Desal

- Important alternative source of potable water
- Goal to increase Desal by 84,000 ac-ft/yr by 2040
- Ocean Plan:
  - Requirements for protection of marine ecosystem
  - Preferred technologies



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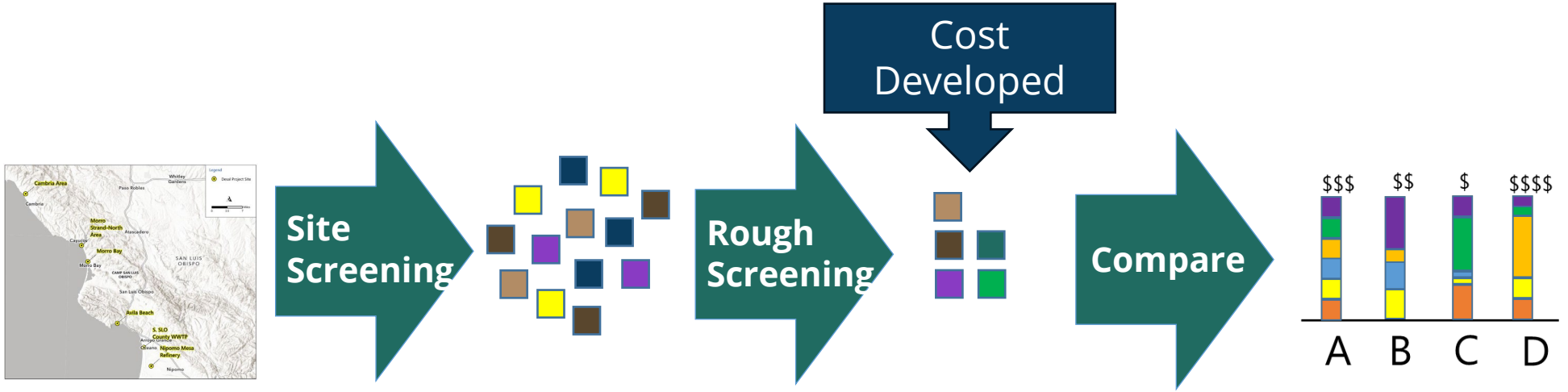
What are the Benefits/Limitations of Desalination?

Benefits	Limitations/Concerns
Provides local, high quality drinking water	Expensive to Construct and Operate (high power use)
Is drought resilient (not tied to hydrologic cycles, surface water flows or wastewater flows)	Difficult to Permit – environmental impacts/mitigation
Can provide a safeguard against unpredictable water shortages	Not flexible to turn off and run only occasionally

Screening Process to Narrow the Options Down to Viable Projects/Portfolios



Identify Potential Sites

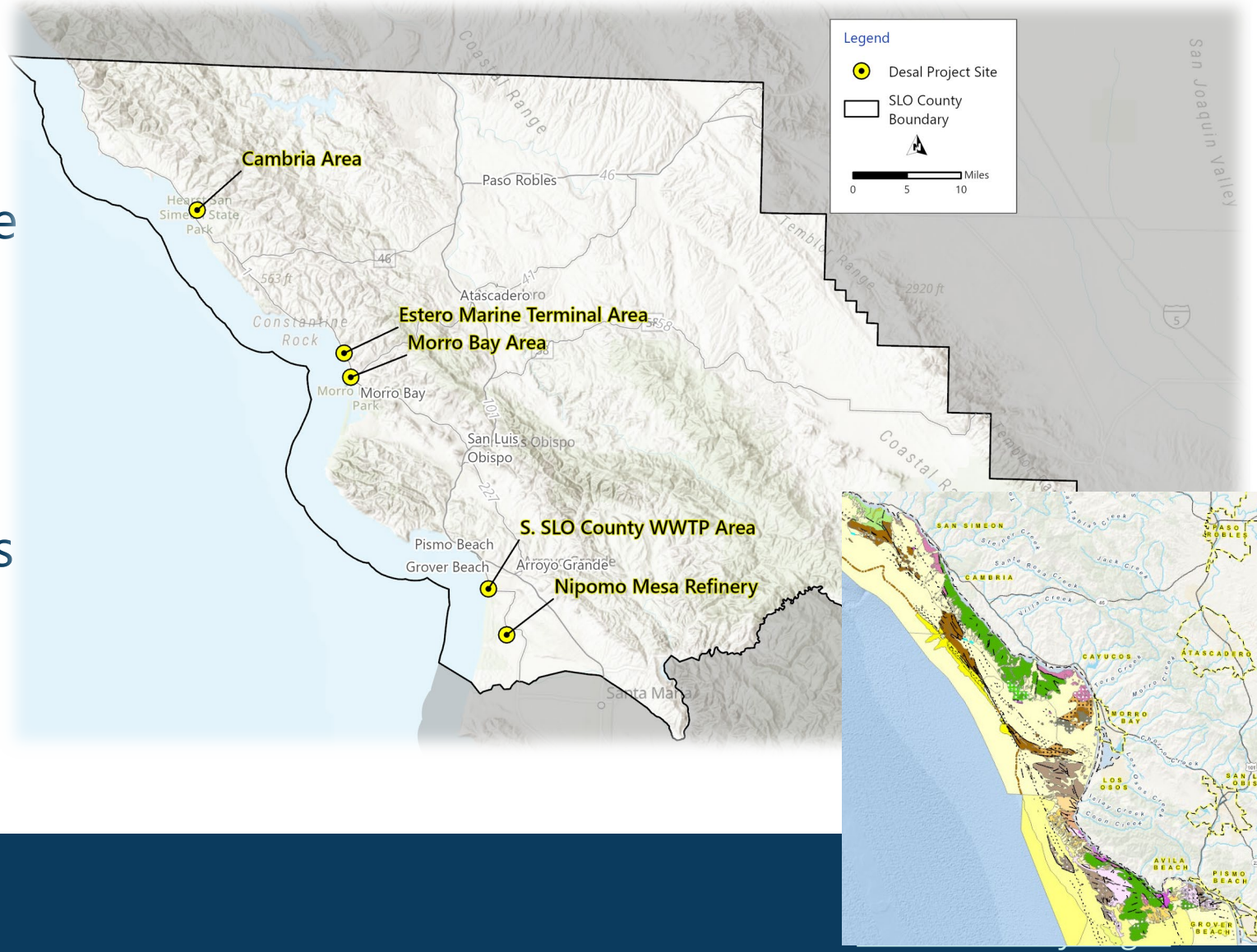
Identify up to 12 Concept Alternatives

Advance up to 5 Concept Alternatives

Compare Concept Alternatives

Consolidated Sites for Further Evaluation

- Sites represent geographic areas not exact locations
- Removed sites with unsuitable hydrogeology (e.g. Diablo)
- Using existing outfalls where possible
- Some locations will require new outfall as existing outfalls are too small



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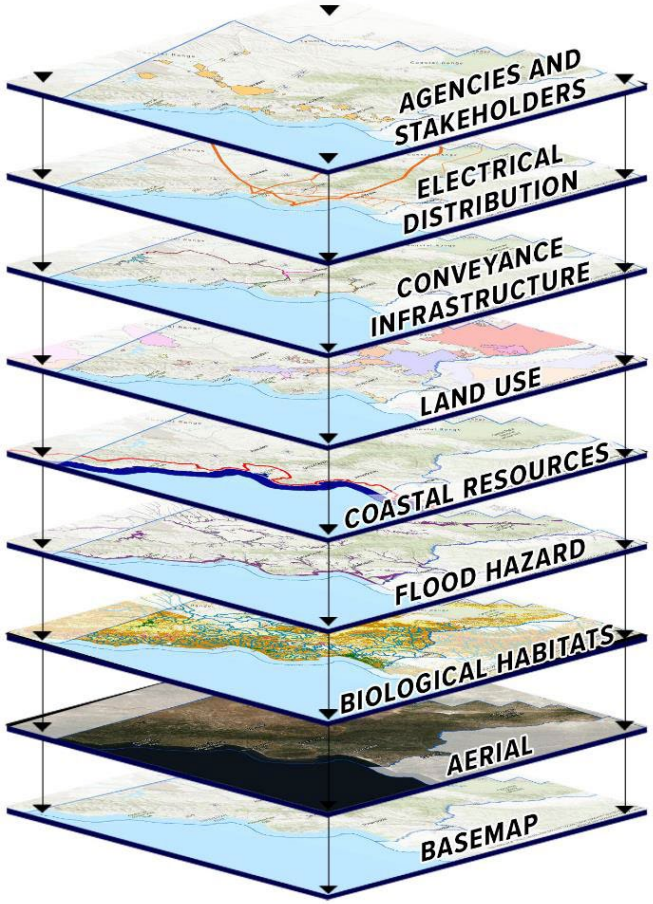
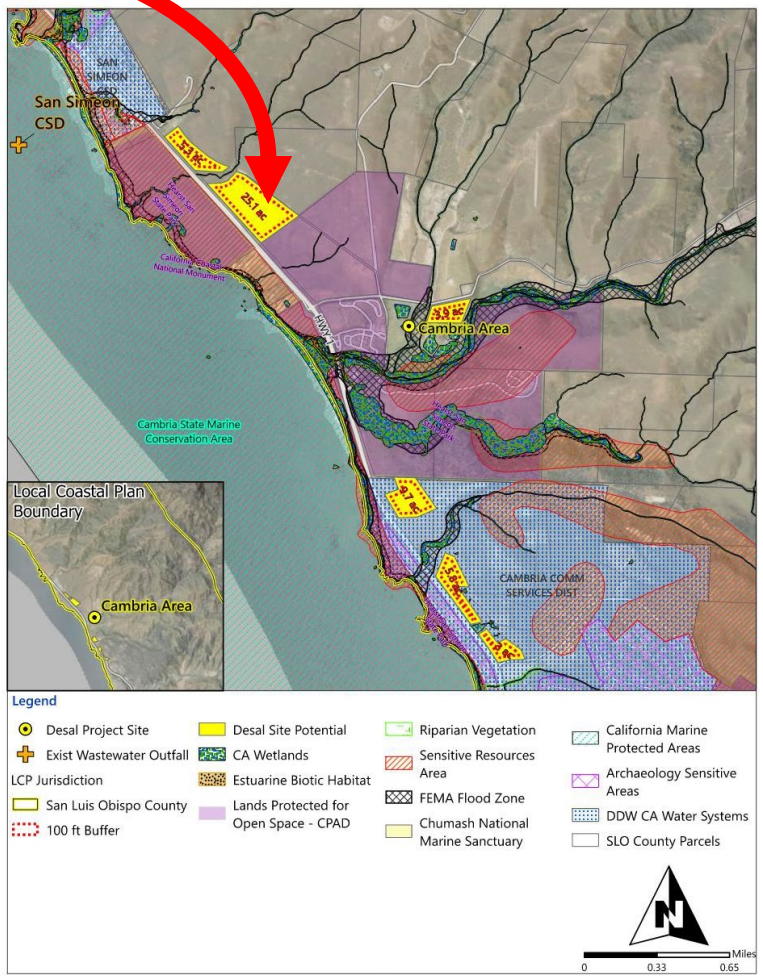
Rough Screening



Identify Areas of Least Potential Impact



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Alternative Development

An Alternative =

Site for an ocean intake, outfall, and desal treatment plant

+

Size of facility (constrained by existing outfall capacity)

+

End Users (demands for direct deliveries, potential exchanges)

+

Conveyance needed for deliveries/ exchanges

Draft – Not for Distribution

Overview of 5 Rough Screened Alternatives

Alternative	Partners Served	Capacity Range	Outfall/Total Piping
Alternative A – Cambria	Cambria, San Simeon	330-580 AFY (0.3-0.5 mgd)	New Outfall 15 miles
Alternative B – Cayucos/Estero Marine Terminal	Los Osos, Cambria, San Simeon, potential SWP exchange	930-1,055 AFY (0.8-0.9 mgd)	Estero Marine Terminal Outfall 32 miles
Alternative C – Morro Bay Area	Los Osos, San Luis Obispo, Cal Poly, all Lopez users, Templeton, San Luis Groundwater, Cambria, San Simeon	5,855-7,855 AFY (5.2-7 mgd)	Morro Bay Outfall 41 miles
Alternative D – South SLO	Los Osos, San Luis Obispo, Cal Poly, all Lopez users, Templeton, San Luis Groundwater, Northern Cities and Nipomo Mesa Management Areas, Nipomo	5,070-6,825 AFY (4.5-6 mgd)	South SLO County CSD Outfall 32 miles
Alternative E – Nipomo Mesa	All Lopez users, Nipomo, Santa Barbara County (optional)	1,805-1,905 AFY (1.6-1.7 mgd)	Nipomo Mesa Outfall 22 miles

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Alternative A – Cambria Area Local Deliveries

- 330 – 580 AFY (0.3 - 0.5 mgd)
- Potential Users: Cambria and San Simeon
- New Outfall
- Avoid existing Marine Protected Areas - relocate intake and outfall North of San Simeon
- Approx 15 miles total of pipeline

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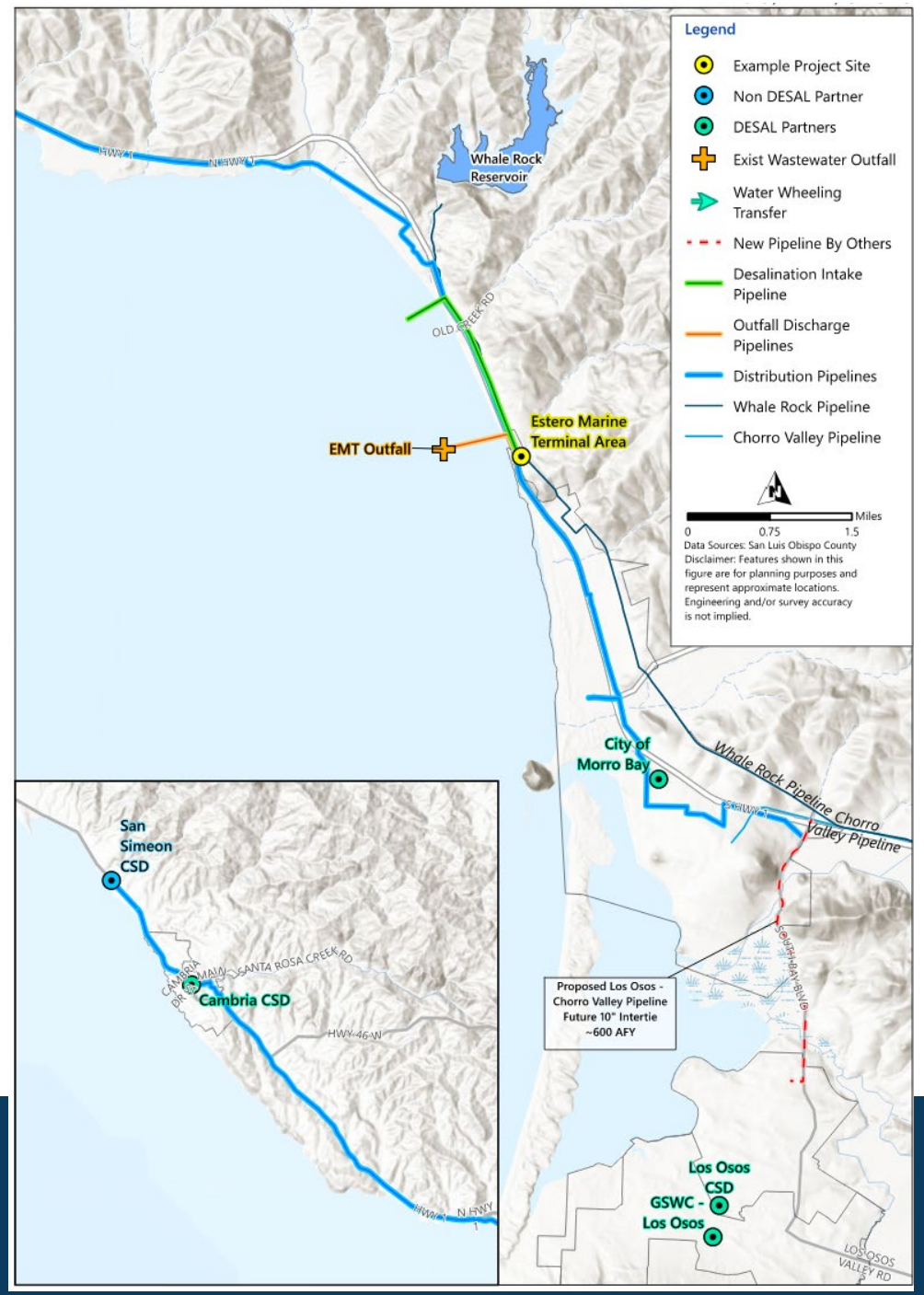
Alternative B – Cayucos/ Estero Marine Terminal

- 930 – 1,055 AFY (0.8 - 0.9 mgd)
- Potential Users: Cambria, San Simeon, Los Osos
- Use existing Estero Marine Terminal outfall
- Optional: Exchange with South County users via Lopez pipeline and State Water Project at Morro Bay
- Approx 32 miles total of pipeline



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Alternative C – Morro Bay Area

- 5,855 – 7,885 AFY (5.2 - 7 mgd)
- Potential Users: Los Osos, SLO, Cal Poly, all South County Lopez users, Templeton, San Luis GSAs
- Optional users: Cambria/San Simeon or Santa Barbara County
- Exchanges via Lopez/SWP and Nacimiento pipelines.
- Use existing MB Outfall
- Approx 46 miles total of pipeline

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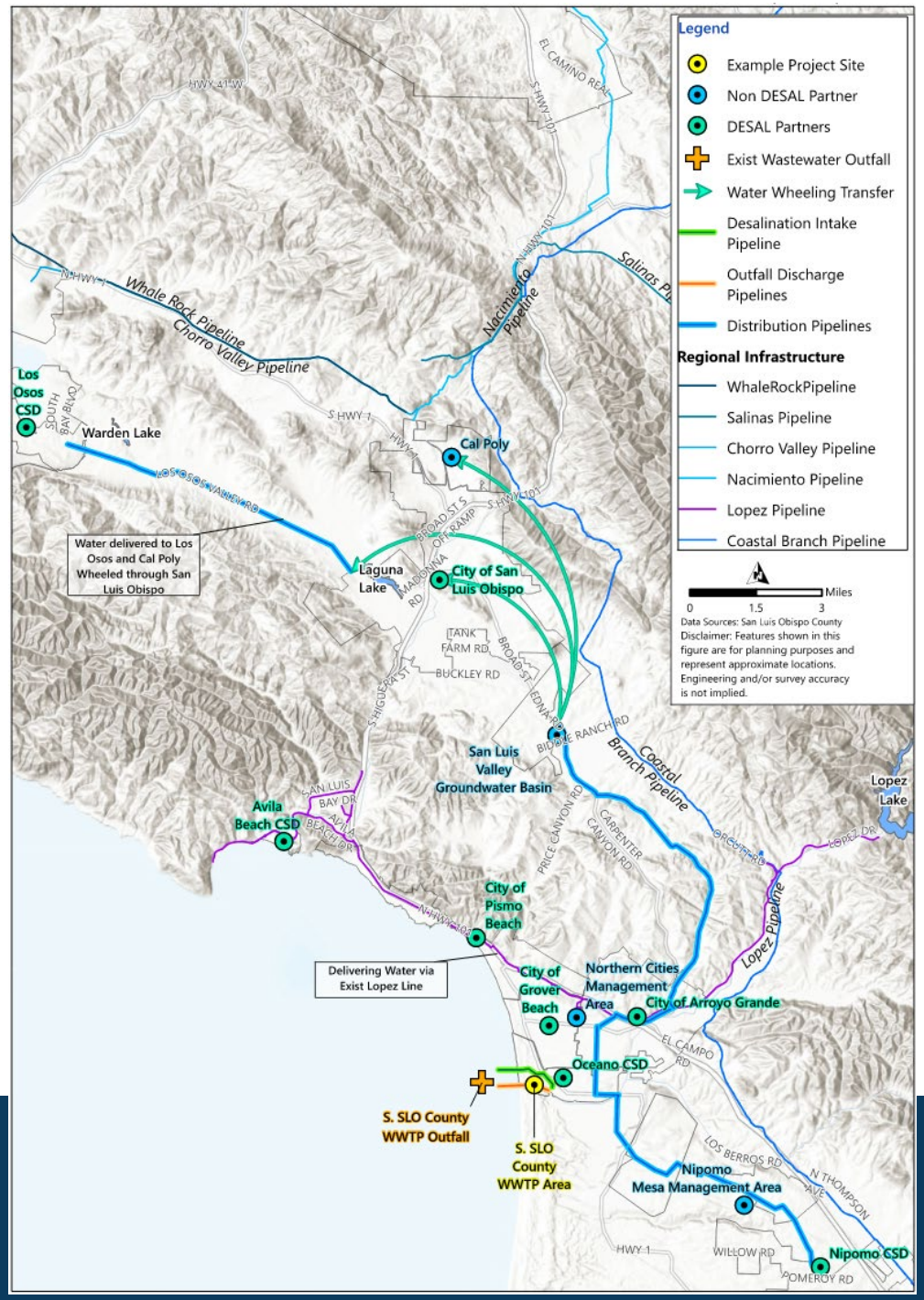
Alternative D – South SLO County Area

- 5,070 – 6,825 AFY (4.5 – 6 mgd)
- Potential Users: SLO, Cal Poly, all South County Lopez users, Northern Cities and Nipomo Mesa Management Areas, Nipomo, Templeton, San Luis GSA,
- Potential new pipeline to Los Osos for higher delivery
- Use existing South SLO County WWTP Outfall
- Wheel Water through SLO
- Potential Exchanges with North County via Nacimiento
- Approx 31 miles total of pipeline



Alternative E – Nipomo Mesa Refinery

- 1,805 - 1,905 AFY (1.6 - 1.7 mgd)
- Potential Users: All South County Lopez users, Nipomo
- Optional to Santa Barbara County via State Water Project
- Use existing refinery outfall.
- Increase South County offset with exchange via Lopez pipeline and SWP.
- Approx 21 miles total of pipeline

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Stakeholder Engagement Activities

Overview of 5 Rough Screened Alternatives

Alternative	Partners Served	Capacity Range	Outfall/Total Piping
Alternative A – Cambria	Cambria, San Simeon	330-580 AFY (0.3-0.5 mgd)	New Outfall 15 miles
Alternative B – Cayucos/Estero Marine Terminal	Los Osos, Cambria, San Simeon, potential SWP exchange	930-1,055 AFY (0.8-0.9 mgd)	Estero Marine Terminal Outfall 32 miles
Alternative C – Morro Bay Area	Los Osos, San Luis Obispo, Cal Poly, all Lopez users, Templeton, San Luis Groundwater, Cambria, San Simeon	5,855-7,855 AFY (5.2-7 mgd)	Morro Bay Outfall 41 miles
Alternative D – South SLO	Los Osos, San Luis Obispo, Cal Poly, all Lopez users, Templeton, San Luis Groundwater, Northern Cities and Nipomo Mesa Management Areas, Nipomo	5,070-6,825 AFY (4.5-6 mgd)	South SLO County CSD Outfall 32 miles
Alternative E – Nipomo Mesa	All Lopez users, Nipomo, Santa Barbara County (optional)	1,805-1,905 AFY (1.6-1.7 mgd)	Nipomo Mesa Outfall 22 miles

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Q&A for Clarifying Questions

Please write questions on 3x5 card and hand to Staff member. We will answer a few questions before the breakout station discussions.

Breakout Station Framing and Overview

Breakout Stations

- Divide into 3 groups
- Rotations to 3 Stations – 15 min each table
  - Brief intro overview/presentation
  - Q&A
- Stations:
  - Regional Fit and Reliability (why we need new water supply)
  - Infrastructure Needs (building off existing investments) – Land focus
  - Permitting and Environmental Considerations – Ocean focus
- Each Table staffed with County, Consultant and Partner staff

Regional Fit and Reliability - Why should we find a new supply?

Looking ahead, identifying supply shortfalls is a responsible step toward securing reliable, regionally aligned water sources countywide.

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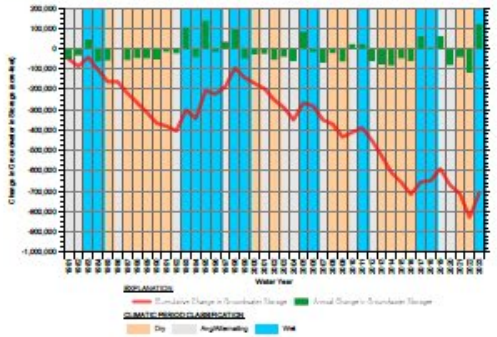
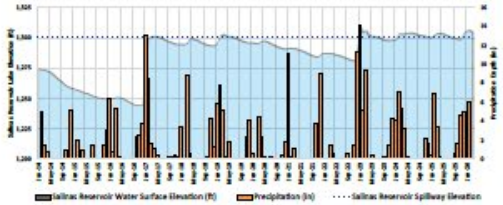
1 Salinas River: 2023 storm events washed out segments of the Nacimiento pipeline; temporary piping is being used during peak season to provide service in the interim.

2 Whale Rock: The Whale Rock Pipeline is aging, but has benefited from targeted infrastructure upgrades, and replacing older segments with modern materials to extend service life.

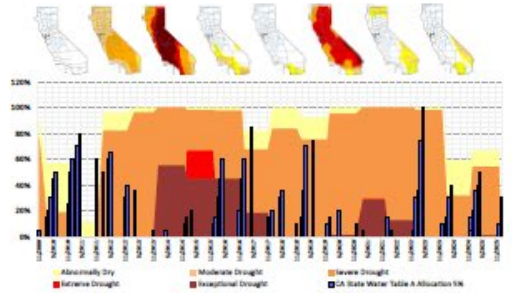
3 Lopez: Habitat Conservation Plan will require modified releases from Lopez Dam to support steelhead migration. Uncertainties regarding legal challenges and changing hydrologic conditions over time may require adjustments to supply deliveries.



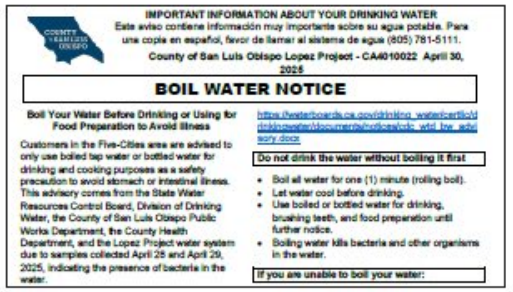
4 Paso Basin: Historic overpumping of groundwater has lead to unsustainable declines in water levels.



5 Salinas Reservoir: Aging assets from the Salinas Reservoir, which provide a critical water supply source to the City of SLO, are entirely dependent on local rainfall to maintain adequate water supplies..



7 State Water: Approximately 10% of SLO County demands are met by imported State Water, which is limited in drought conditions and the aqueduct is compromised by subsidence.



IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Este aviso contiene información muy importante sobre su agua potable. Para una copia en español, favor de llamar al sistema de agua (805) 781-5111.

County of San Luis Obispo Lopez Project - CA4010022 April 30, 2025

BOIL WATER NOTICE

Boil Your Water Before Drinking or Using for Food Preparation to Avoid Illness

Customers in the Five-Cities area are advised to only use boiled tap water or bottled water for drinking and cooking purposes as a safety precaution to avoid stomach or intestinal illness. This advisory comes from the State Water Resources Control Board, Division of Drinking Water, the County of San Luis Obispo Public Works Department, the County Health Department, and the Lopez Project water system due to samples collected April 25 and April 29, 2025, indicating the presence of bacteria in the water.

https://waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/notices/sslo_wtd_bw_advisory.docx

Do not drink the water without boiling it first

- Boil all water for one (1) minute (rolling boil).
- Let water cool before drinking.
- Use boiled or bottled water for drinking, brushing teeth, and food preparation until further notice.
- Boiling water kills bacteria and other organisms in the water.

If you are unable to boil your water:

6 Water Quality: In April 2025, customers in the five-cities region were issued a boil water notice when standards weren't met for a period of time.

.gov

Closing the Gap of Regional Infrastructure

Connecting communities to strengthen reliability, resilience, and regional cooperation.

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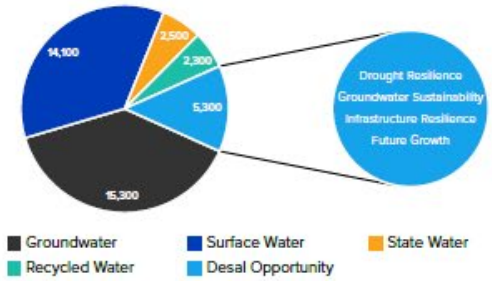
Alternative Development

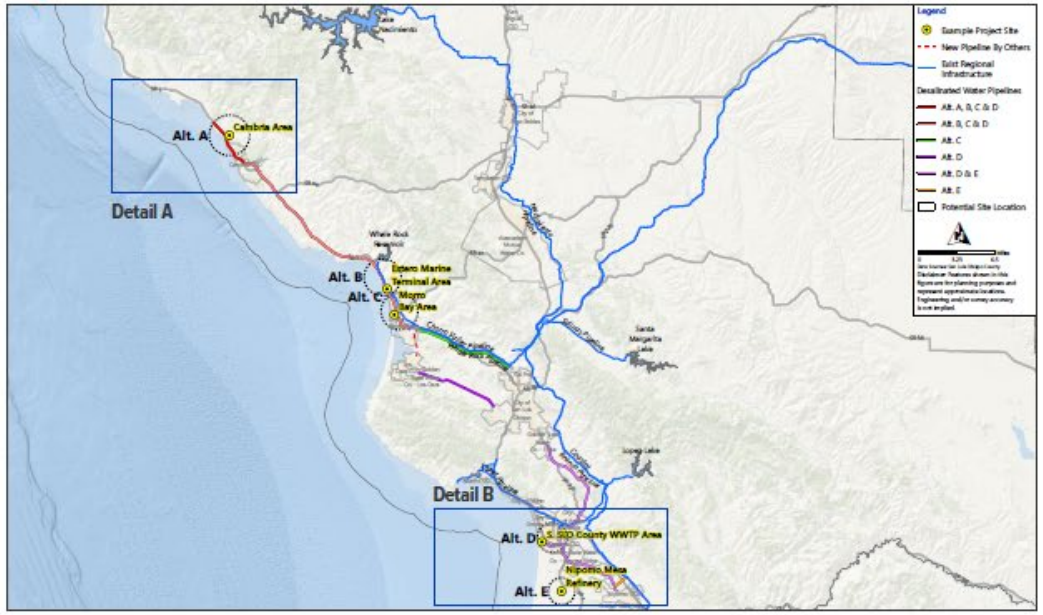
An initial screening of 26 coastal sites narrowed the field to 12 alternatives, which were refined to the five locations that were developed further into alternatives. Figure at right (Key Alternatives).

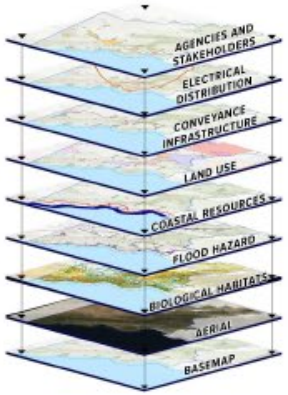
Regional Demands

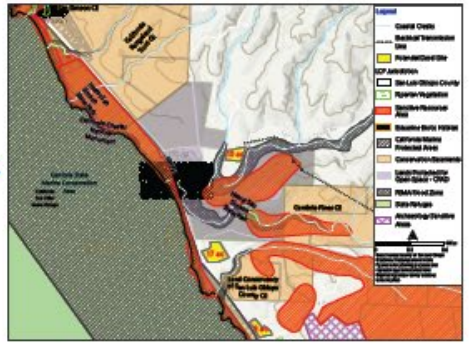


Potential Sites

Key Alternatives

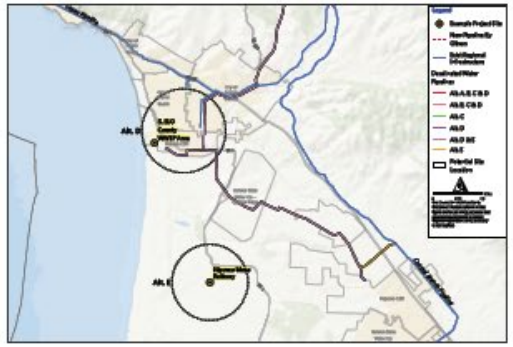






Detail A - Site Impact Evaluation

Infrastructure alignments and site locations were selected by layering known environmental resources to prioritize areas with the lowest potential environmental impact.



Detail B - Optimizing the Use of Existing Infrastructure

Alternative capacities range from single-jurisdiction supplies to multi-user regional delivery concepts. Projected delivery volumes reflect partner needs, including direct supply requests, lost reliability of existing sources (e.g., State Water), and future growth demands.

.gov

Permits in the Pacific: Navigating the Coastal Zone

The Coastal Zone extends both offshore and inland, introducing multiple environmental constraints that must be considered during alternative development.

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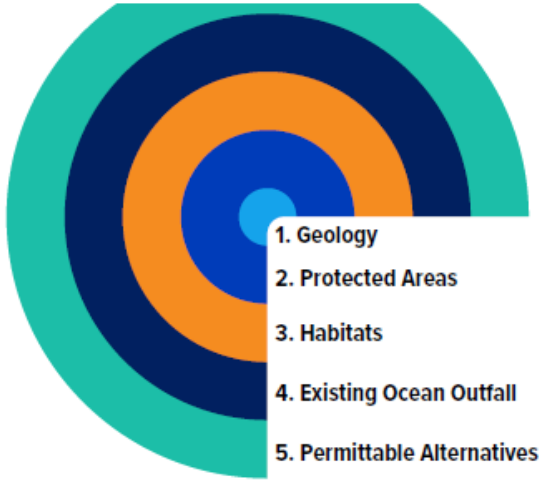
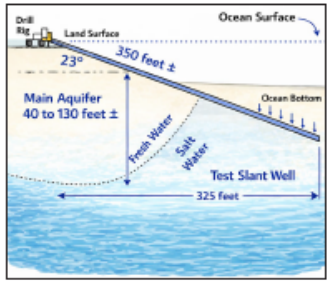
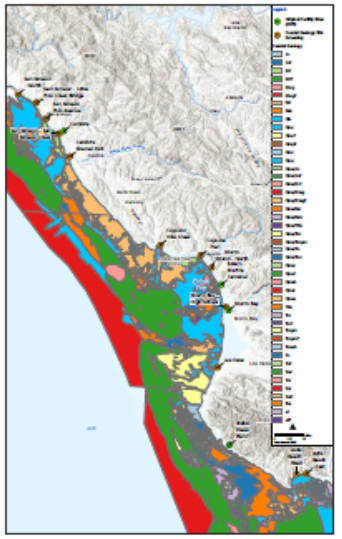
A Multi-Layered Approach to Permitting



1. Geology

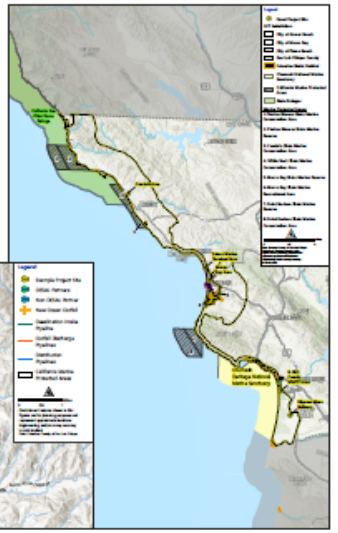
Utilizing subsurface intakes requires adequate geology similar to inland wells. Identify areas of favorable sandy soils to support subsurface intakes.

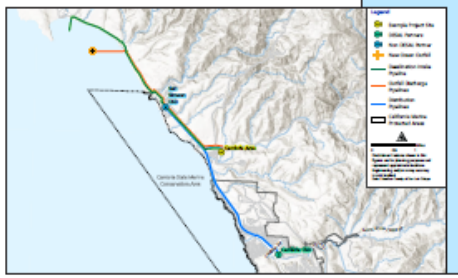




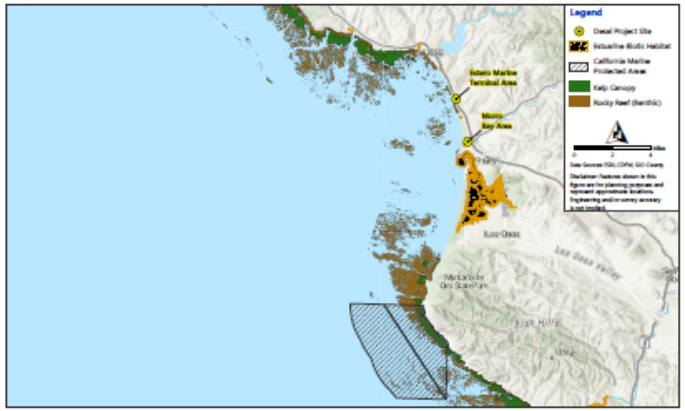
2. Protected Areas

Identifying protected areas such as Marine Protected Areas (MPAs), Wildlife Sanctuaries, and National Marine Sanctuaries. Adjusted alternative infrastructure to accommodate existing restricted areas (See Detail A)



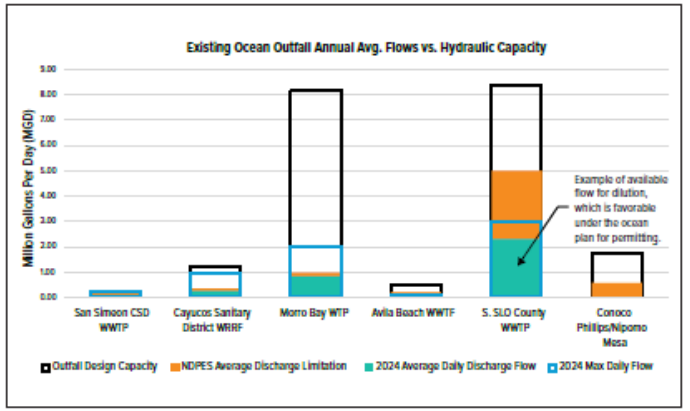


Detail A - Alternative A Reroute Intake and Outfall Infrastructure avoiding Cambria State MPA



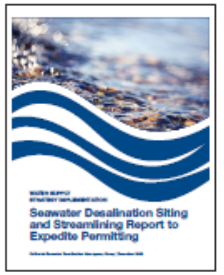
3. Sensitive Habitats

Avoid sensitive habitats such as kelp, forests, otter sanctuaries, Rocky Reef etc.



4. Existing Ocean Outfall Infrastructure

Permittable pathway is to dilute reverse osmosis concentrate with existing treated wastewater flows in existing ocean outfall.



5. Permittable Alternatives

Few desalination facilities currently operate in the state. Although permitting through state agencies—particularly the Coastal Commission—is extensive, it is feasible. State streamlined documents help clarify what is permittable versus what requires more rigorous compliance with the Ocean Plan.

.gov

Station Rotations

Closing Remarks and Next Steps

Report Outs from Station Leads

- Regional Fit and Reliability
- Infrastructure Needs
- Permitting and Environmental

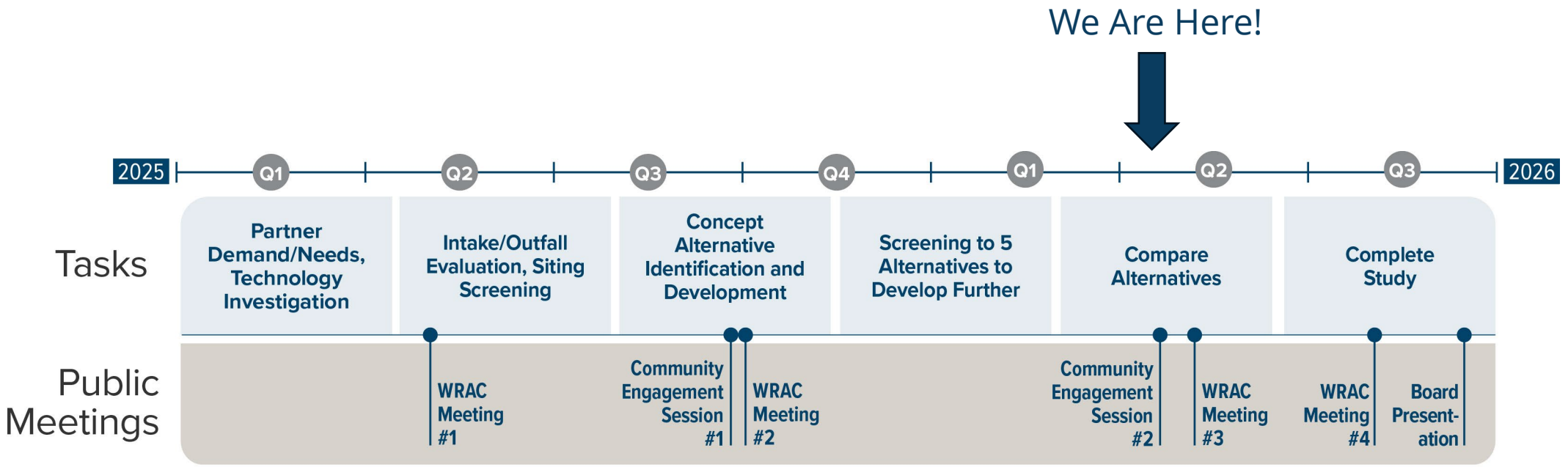
Stakeholder Engagement Activities

- Meetings with Partners
- Discussions with Regulators
- Community Outreach Sessions:
  - Sept 2025
  - April 2026
- Surveys
  - Aug/Sept 2025
  - May 2026
- Public presentations at WRAC:
  - May 2025
  - Oct 2025
  - May 2026
  - Aug 2026
- County Board of Supervisors – Sept 2026

Work Remaining after these Public Sessions

- Finalize alternatives based on input
  - Community input – surveys and comments (website)
  - May WRAC meeting
- Estimating costs for each alternative
  - Intakes/Outfalls
  - Pipelines
  - Treatment
- Developing report to meet USBR Grant requirements
  - Draft Report will be posted on DESAL website in July
  - Opportunity to provide comments on draft report
  - Final Report to be completed by Sept 15

Next Steps



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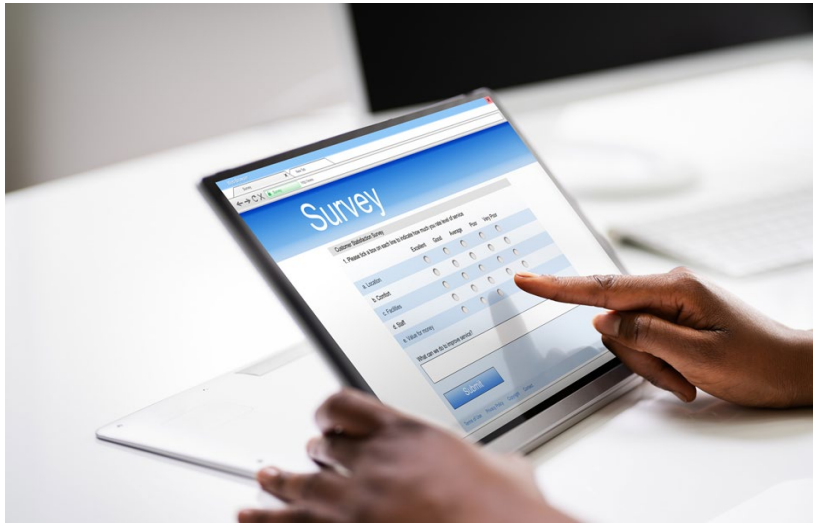
How to Stay Engaged

- Leave written comments with staff
- Visit our project website:
  - **www.slocounty.ca.gov/DESAL**
  - Join the email list today
  - Fill out the survey in May



- Attend 5/6/26 WRAC Meeting

COUNTY OF SAN LUIS OBISPO

Thank you for your time & input!

Community Engagement Session - April 2026

www.slocounty.ca.gov/DESAL