

Desalination Executable Solution and Logistics (DESAL) Plan

Water Resources Advisory Committee – October 1st, 2025



Draft – Not for Distribution

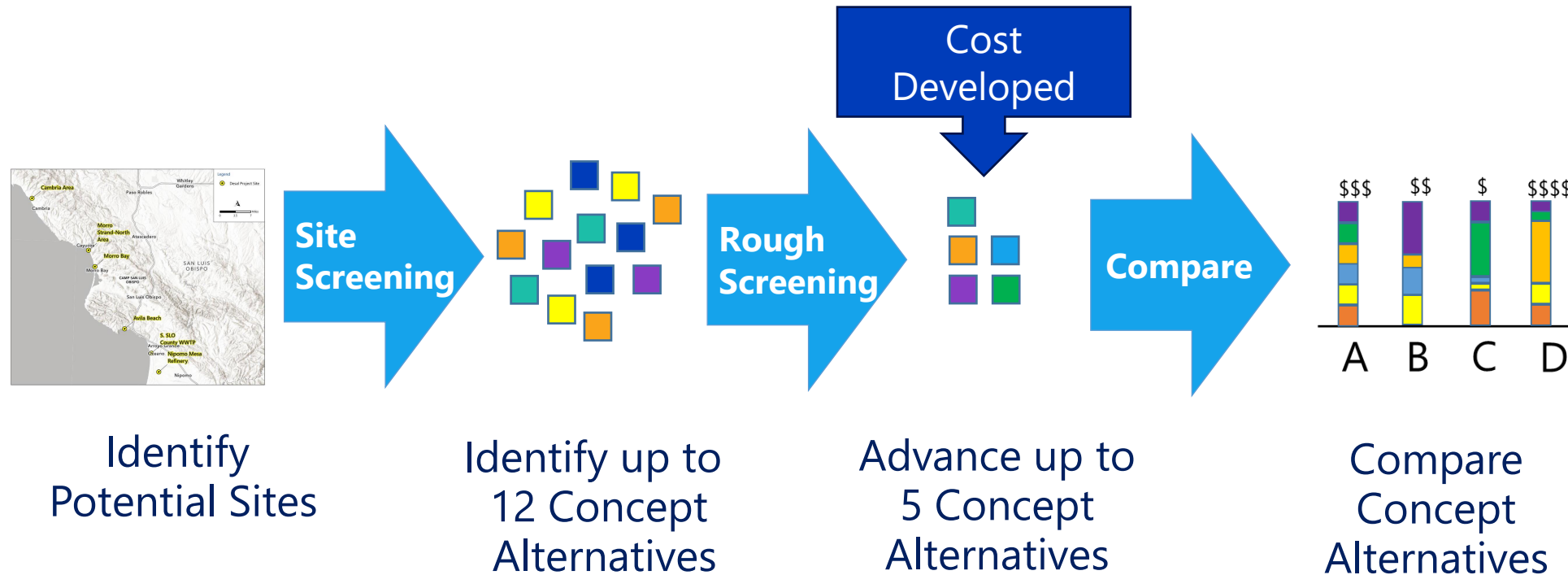


— Meeting Agenda

1. Agenda and Objective/Goals
2. Site Screening Approach
3. Concept Alternatives
4. Screening Process
5. Community Engagement Session
6. Next Steps

| Intake and Outfall Site Screening

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

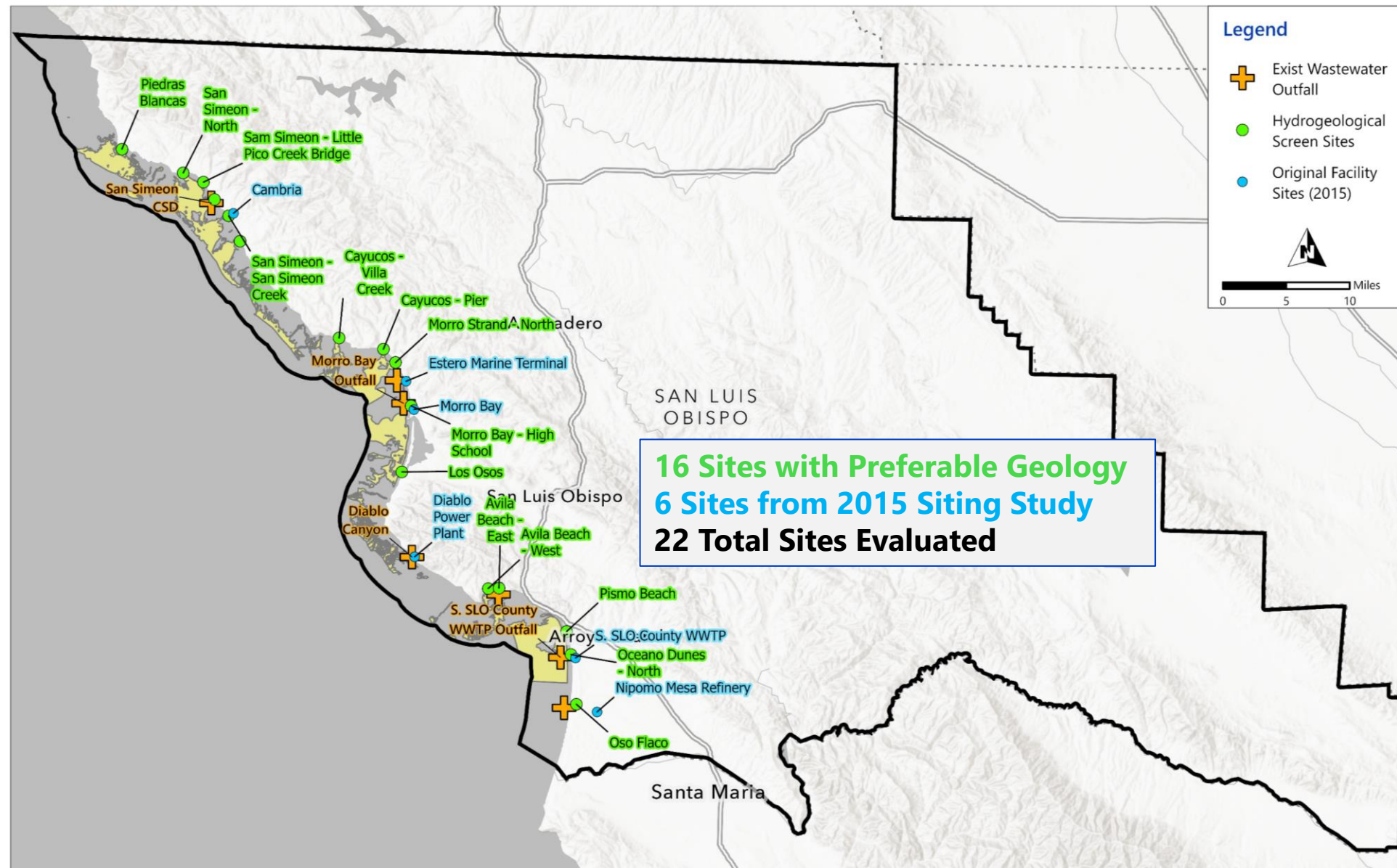


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Approach:

Site Screening → Alternative Development

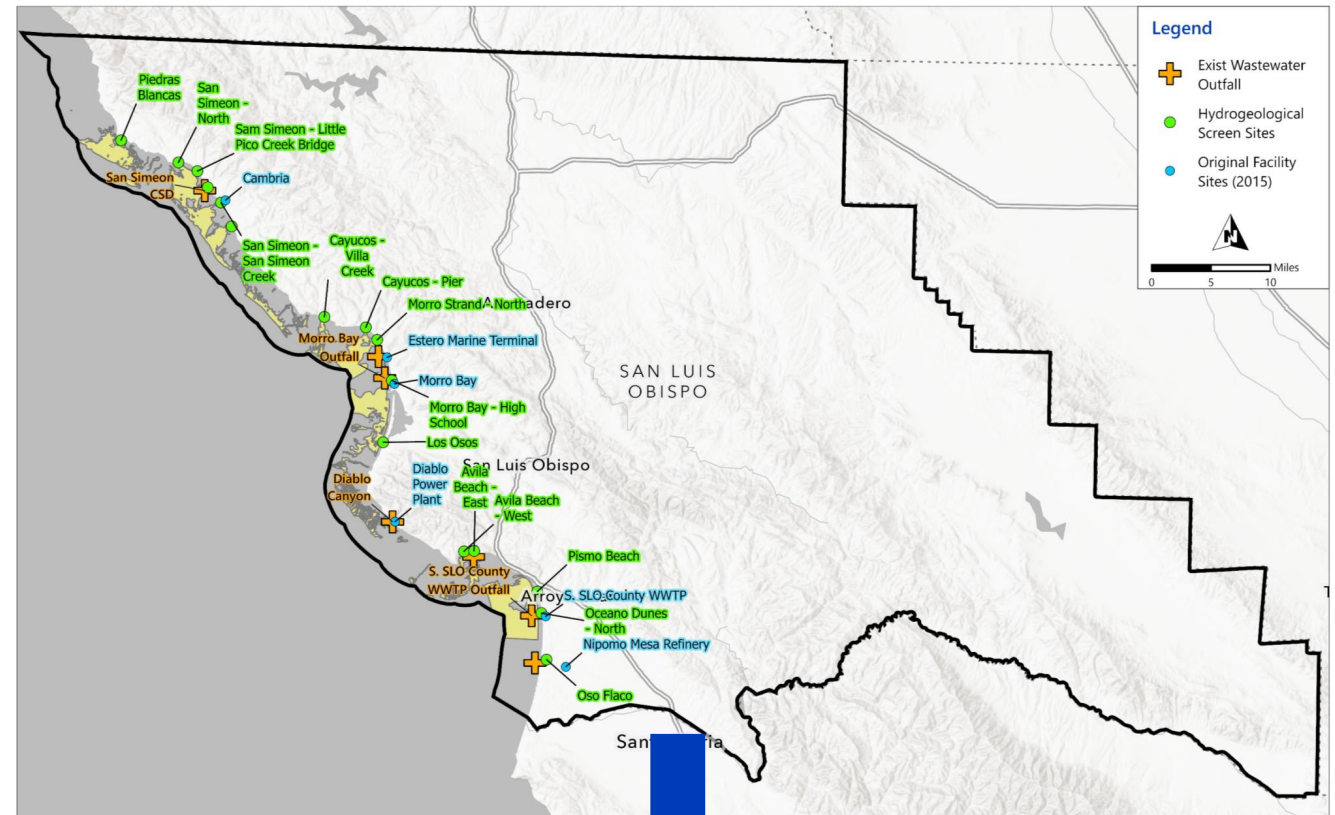


Intakes and Outfalls along the SLO County Coast



Consolidated Sites for Further Evaluation

- Consolidated sites represent geographic areas
 - » For example: "Cambria" represents intake sites 1 – 6.
- 16 Sites were narrowed down to 10 Consolidated Sites
- **Note: Sites represent general area near point. Site not specific to City/location label.**



- Cambria
- Estero Marine Terminal
- Morro Strand
- Morro Bay
- Los Osos
- Diablo
- Avila
- Pismo
- South SLO WWTP
- Nipomo Mesa

Screening Criteria Used for Sites

Screening Criteria	Key Considerations
Intake Location	<ul style="list-style-type: none">▪ Presence of an existing Intake▪ Hydrogeology/suitability for a subsurface intake (e.g. suitable soils for a permittable intake, bathymetry, seabed condition).
Outfall	<ul style="list-style-type: none">▪ Presence of an existing outfall▪ Capacity of existing outfall▪ Availability of blending water (i.e. treated wastewater effluent)▪ Need for a new outfall
Aquatic Environmental Impacts	<ul style="list-style-type: none">▪ Marine biology▪ Biological habitat of protected species existing and potential.
Land Impacts (Environmental, Social and Technical)	<ul style="list-style-type: none">▪ Biological habitat▪ Cultural resources▪ Environmental protected areas (e.g. State Parks, protected lands)▪ SLR, flooding impacts, coastal erosion.
Conveyance Infrastructure for intake & outfall only	<ul style="list-style-type: none">▪ Distance to connect to regional infrastructure▪ Ability to reach end users with existing regional conveyance▪ Distance for intake/outfall infrastructure.

– Site Selection Summary

Sites Carried Forward:

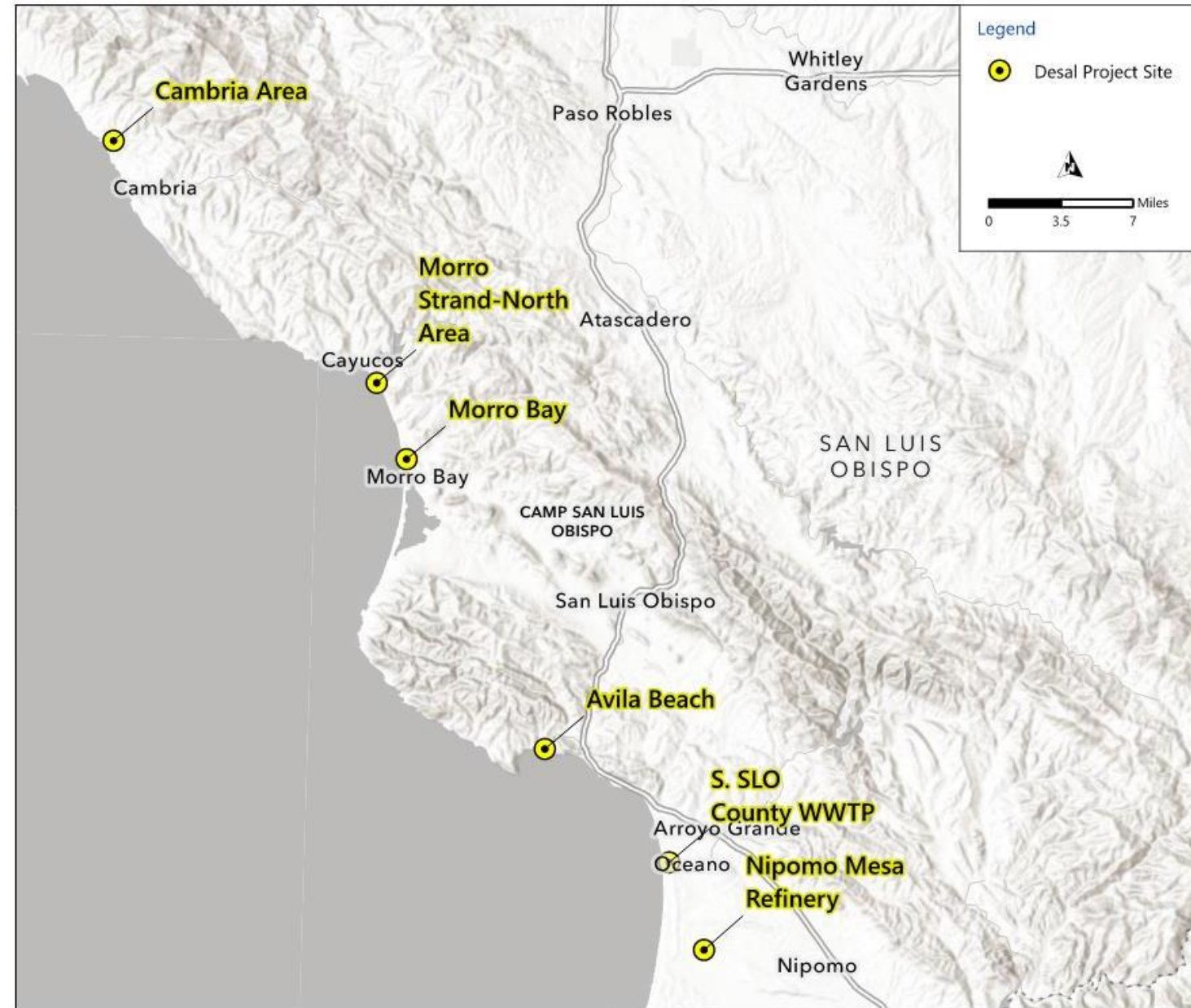
- **High scoring sites:**
 - **Morro Strand/Estero Outfall area**
 - **Morro Bay area**
 - **South SLO WWTP area** (carry as same/similar alternative as Pismo)
- **Medium scoring sites :**
 - **Avila area new outfall:** Good place to explore new outfall (not in NMS)
 - **Nipomo Mesa area:** Existing brownfield site for WTP
- **Lower scoring:**
 - **Cambria area:** New Outfall or alternative offshore technology; not a high score but real near-term need

Sites Not Carried Forward:

- **Low scoring sites:**
 - **Cambria existing outfall:** too small
 - **Diablo existing intake/outfall:** highly unlikely to be able to permit
 - **Diablo new intake/outfall:** unsuitable hydrogeology for subsurface intake
- **Medium scoring sites with no clear advantage:**
 - **Estero Marine Terminal:** unsuitable hydrogeo
 - **Los Osos:** sensitive onshore habitat would make permitting difficult. No advantage over Morro Bay
 - **Avila Existing Outfall:** no regional benefit, too small
 - **Pismo:** Further from outfall

Sites Selected for Alternatives Development

- Cambria area
- Morro Strand/Estero Marine Terminal area
- Morro Bay area
- Avila (new outfall)
- South SLO County WWTP/Pismo Beach area
- Nipomo Mesa area



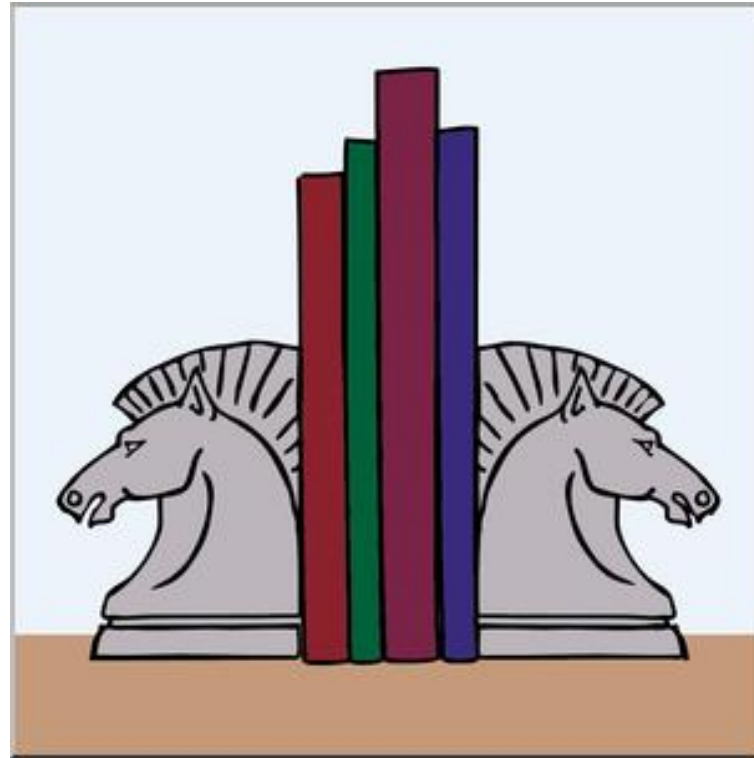
Questions on Siting?

Does this suite of sites make sense?

| Concept Alternatives Development Process

Philosophy for Developing Alternatives - Bookends

Small: Minimum Project size to meet partners' requested demands



Large: Addresses water supply and resilience issues (e.g. groundwater overdraft)

Medium: Reasonable project size that meets requested demands and helps regional resiliency

Alternative Development

An Alternative =

Site(s) for an ocean intake, outfall, and desal treatment plant



Consider existing outfall capacity limitations



End Users (demands for direct deliveries, potential exchanges)



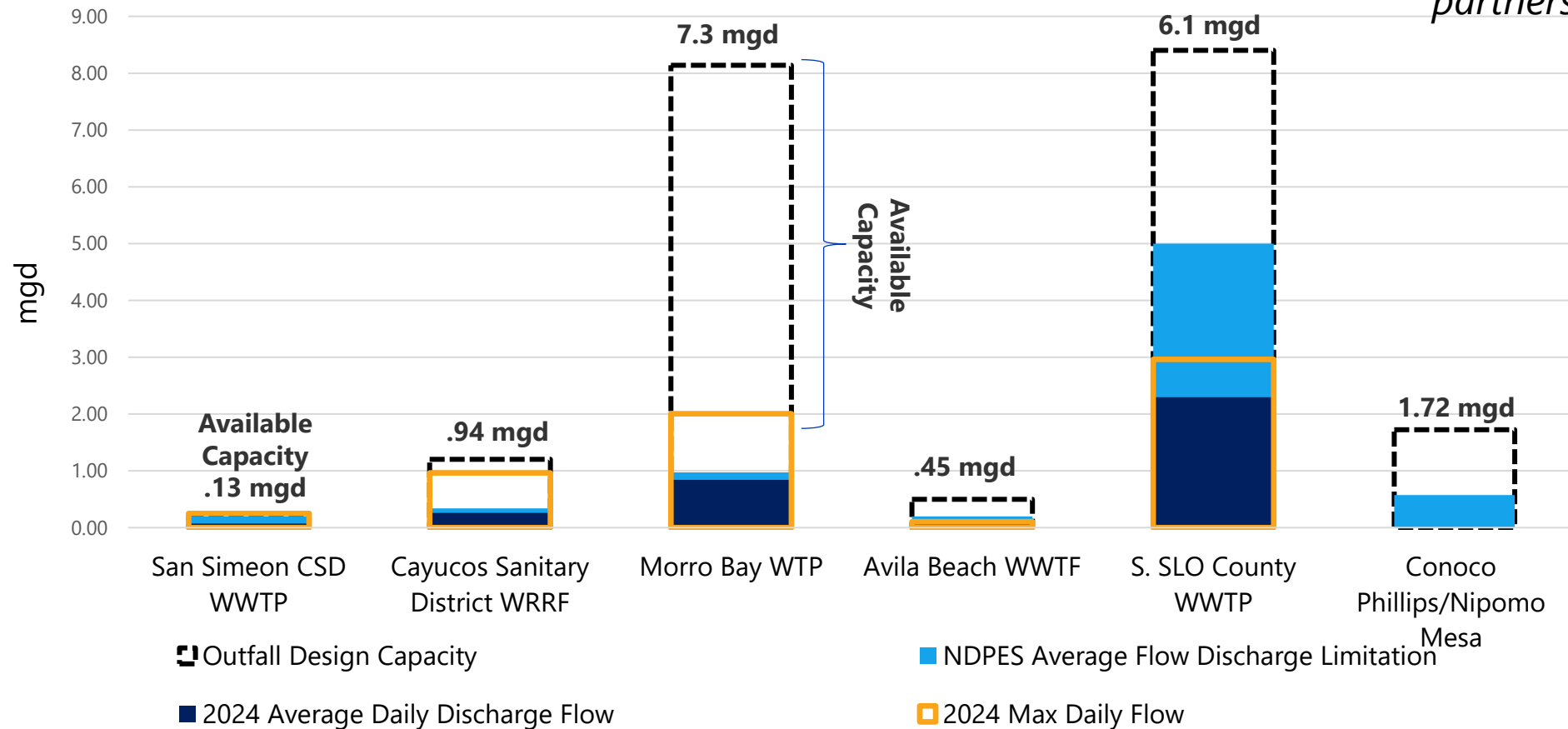
Conveyance needed for deliveries/exchanges

Looking at Existing Outfall Capacity

Notes:

Mgd = million gallons per day

Graph represents existing outfalls, not necessarily willing partners

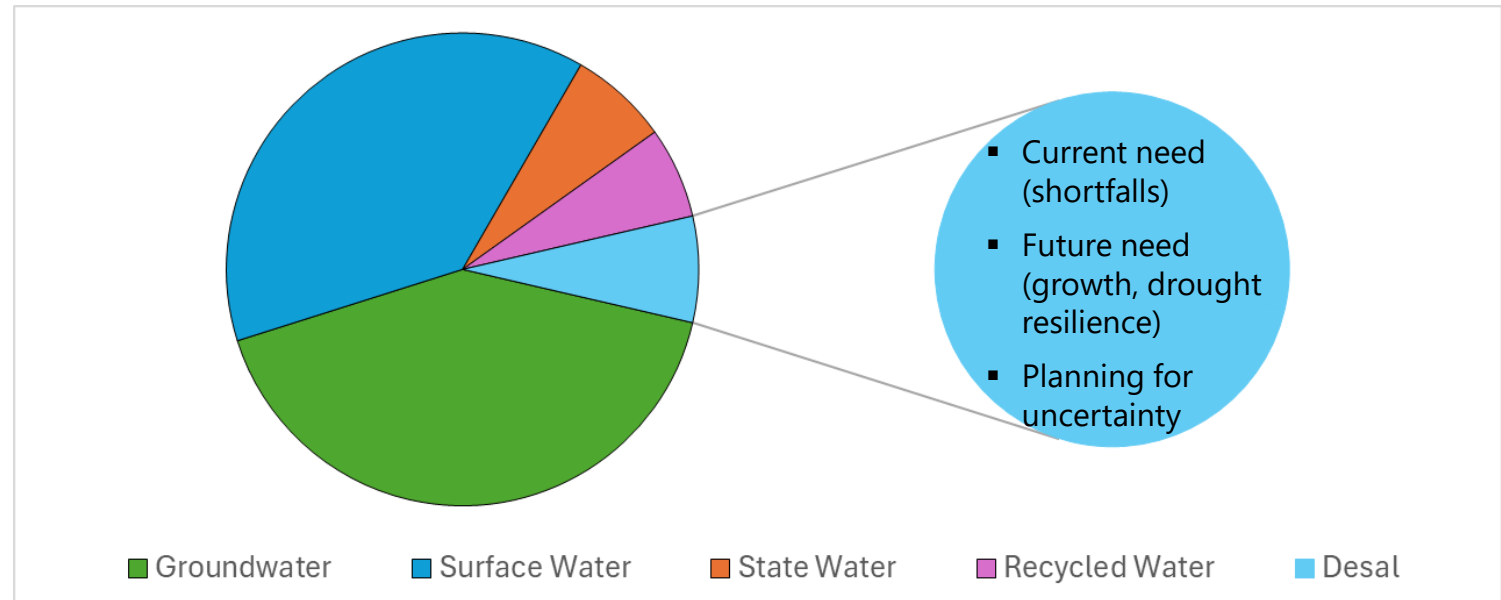


End User Direct Requests

Water use – now and in future

- Develop baseline water use
- Surveyed 20 County water agencies
- Diverse response on where Desal's role fits in
- Approx 5,300 AFY (4.7 mgd) of Desal need identified
- Helps to create project alternatives.

Partner demands ≈ 40,000 Acre-feet/year (AFY)



Additional potential offsets → groundwater basin overdraft (25% = 15,000 AFY)

Scenario Development - What potential supply needs can be met beyond Partner Direct Requests?

- **Regulatory or Drought Cutbacks:**

- » Lopez (fish flows)
- » Whale Rock and Salinas Dam
- » SWP – if unsubscribed allocation not available

- **Sustainable yield GW reductions:**

- » Paso Basin
- » Los Osos
- » San Luis
- » Santa Maria

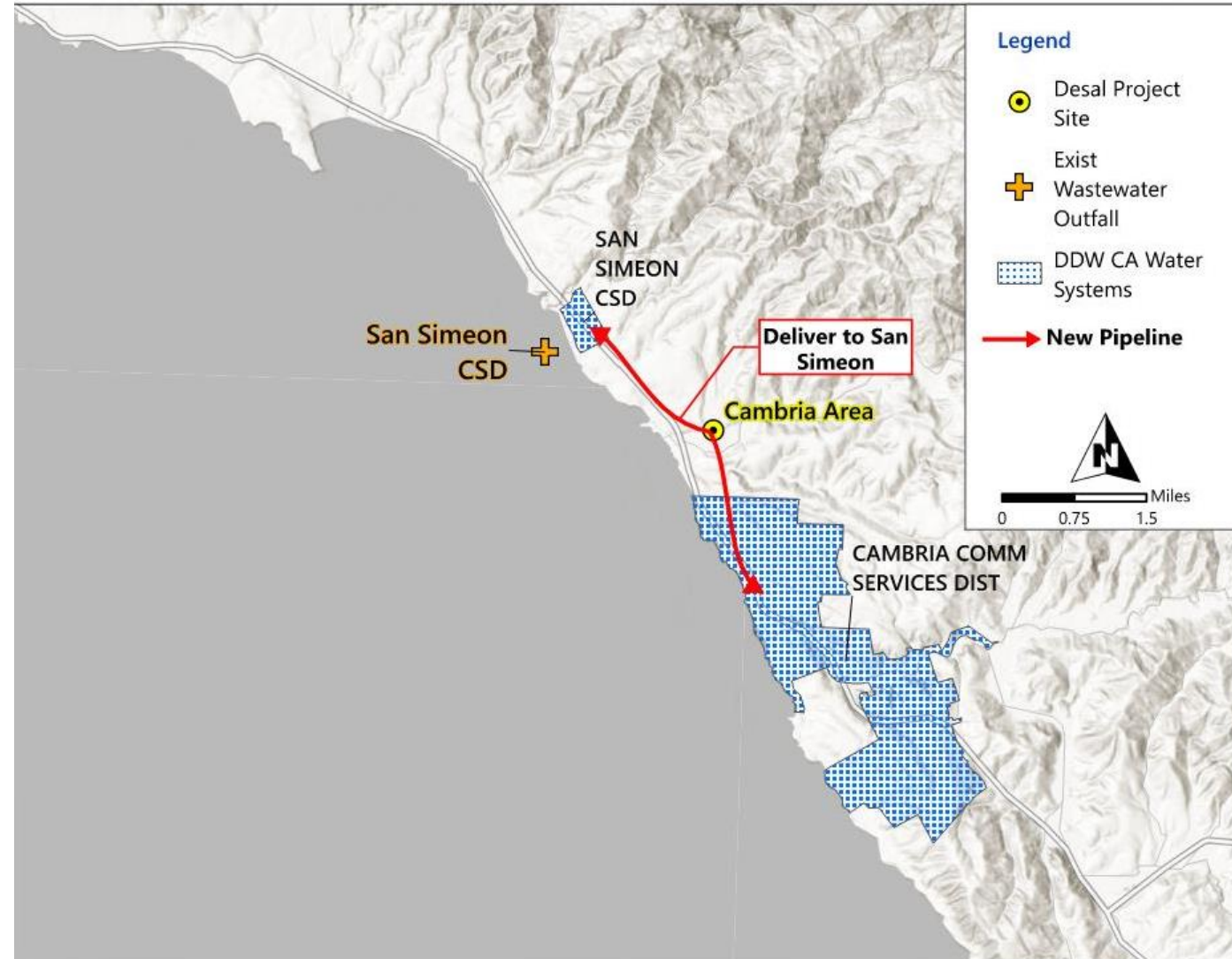
- **Infrastructure failures:**

- » Naci Pipeline
- » Whale Rock
- » Lopez
- » Salinas Dam
- » State Water Project

| Concept Alternatives

Alternative 1: Cambria Area

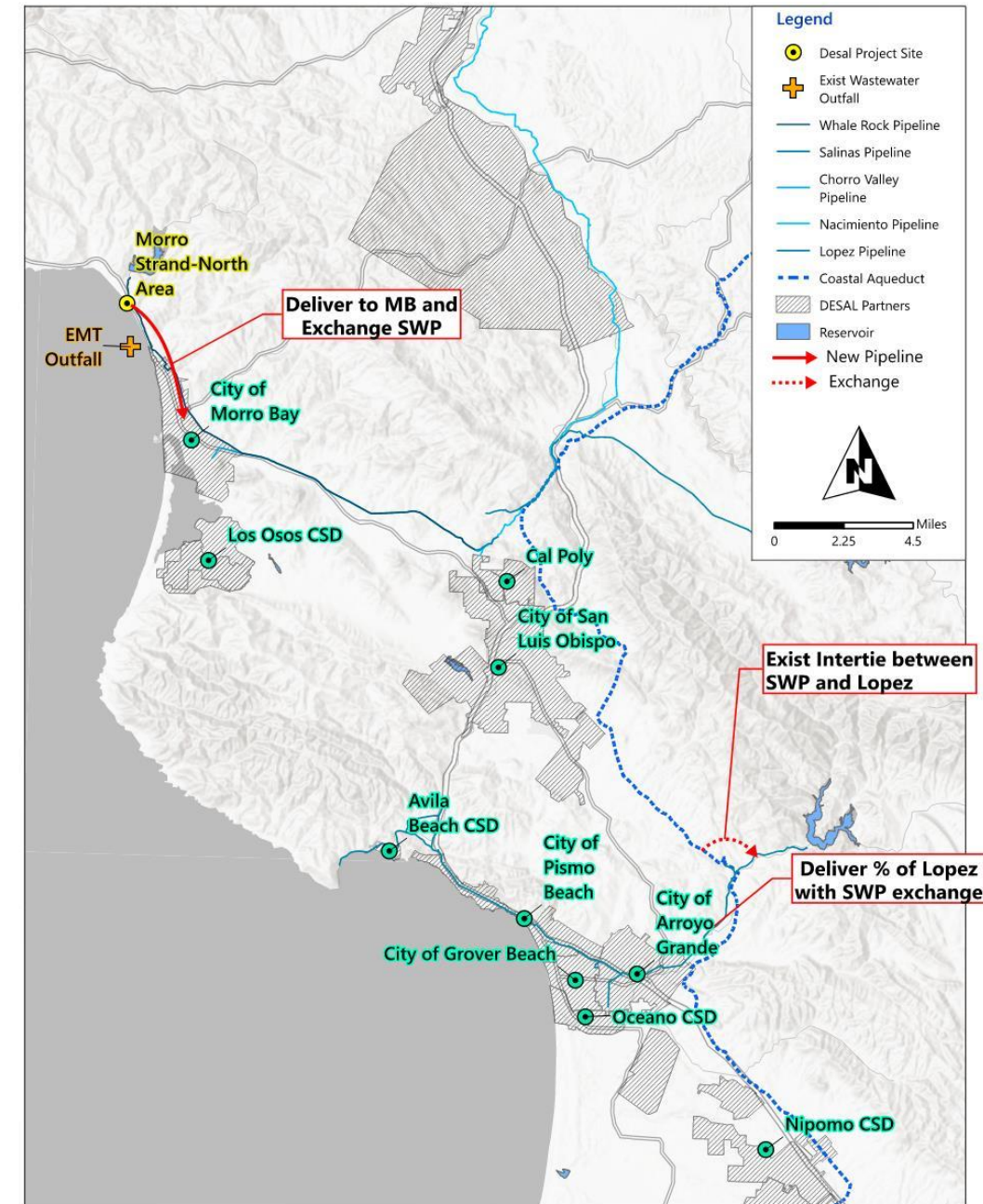
- Water Produced: 330 AFY / 0.29 mgd
- Scenario supports:
 - » Local Direct Requests
- End Users:
 - » Cambria – 250 AFY
 - » San Simeon – 80 AFY
- Estimate of New Pipeline:
 - » ~1.6 mi to San Simeon
 - » ~2.5 mi to Cambria
- Outfall: new outfall



Alt 1.

Alternative 2: Morro Strand/Estero MT and SWP Exchanges

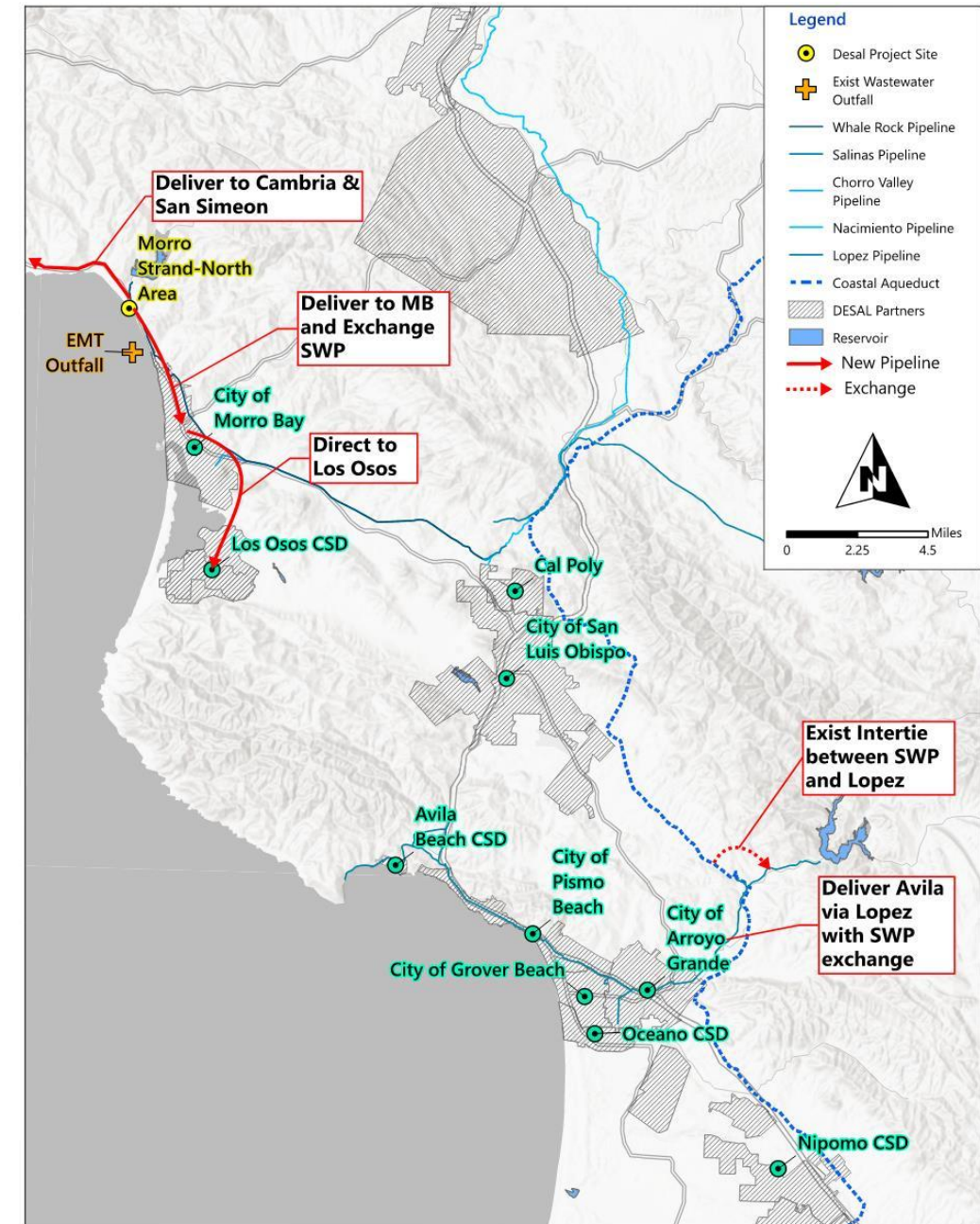
- Water Produced: 1055 AFY / 0.94 mgd
- Scenario supports:
 - » Direct Requests via exchanges
 - » Jurisdictional Release/Local Drought
- End Users:
 - » South County (Lopez users) – 1,055 AFY via exchanges with Morro Bay for SWP
- Estimate of New Pipeline Lengths
 - » 4.9 mi to Morro Bay
- Outfall: Estero Marine Terminal (Cayucos)



Alt 2.

Alternative 3: Morro Strand/Estero MT for North Coast Direct Users

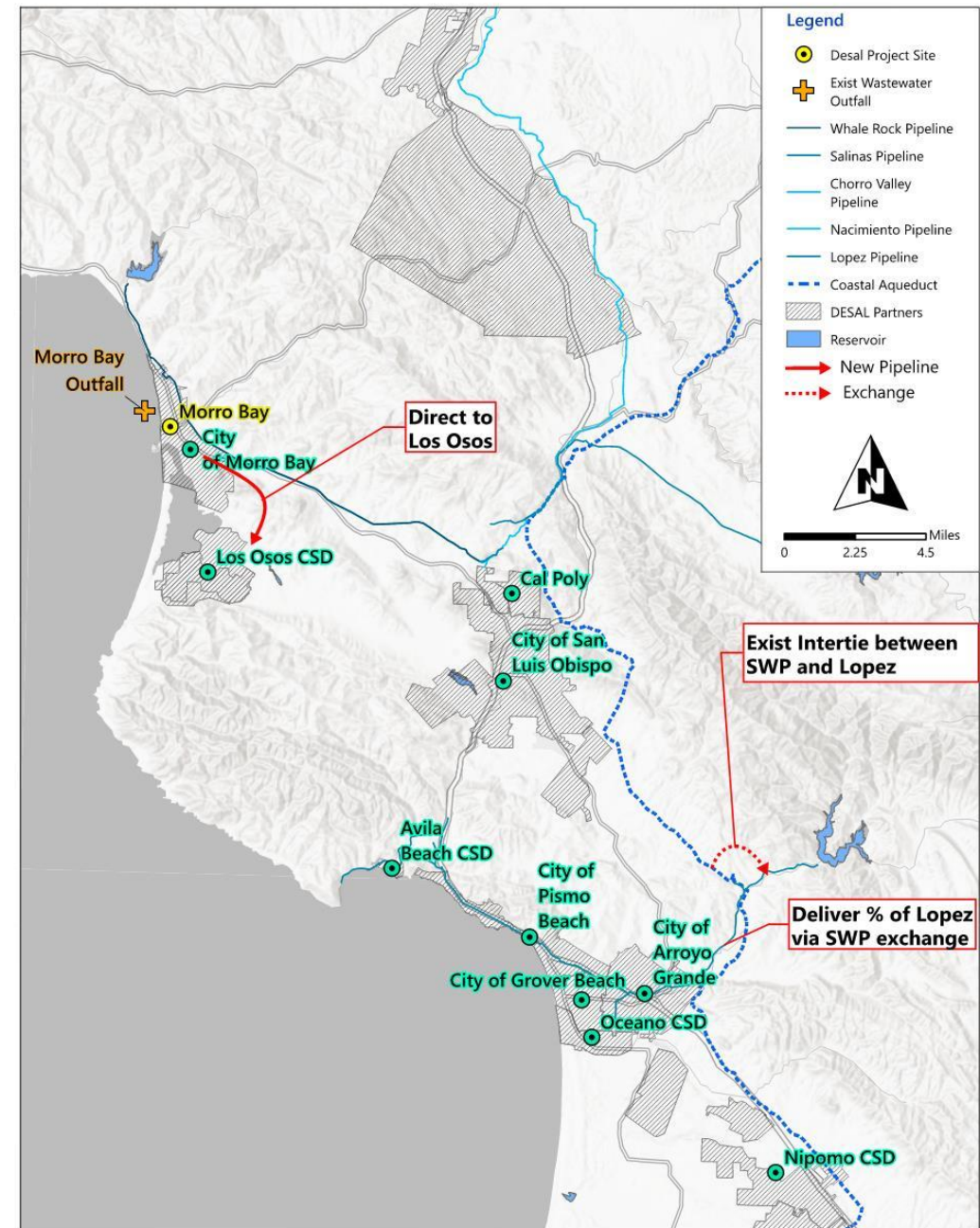
- Water Produced: 1005 AFY / 0.9 mgd
- Scenario supports:
 - » Direct Requests and small SWP exchange
- End Users:
 - » Los Osos – 600 AFY
 - » Avila via SWP exchange with MB – 75 AFY
 - » Cambria – 250 AFY
 - » San Simeon – 80 AFY
- Estimate of New Pipeline Length
 - » ~4.9 mi to Morro Bay
 - » ~2.8 mi to Los Osos (from MB) – Chorro intertie?
 - » ~18.6 mi to Cambria/San Simeon
- Outfall : Estero Marine Terminal (Cayucos)



Alt 3.

Alternative 4: Morro Bay (Small) Local Use and Exchange

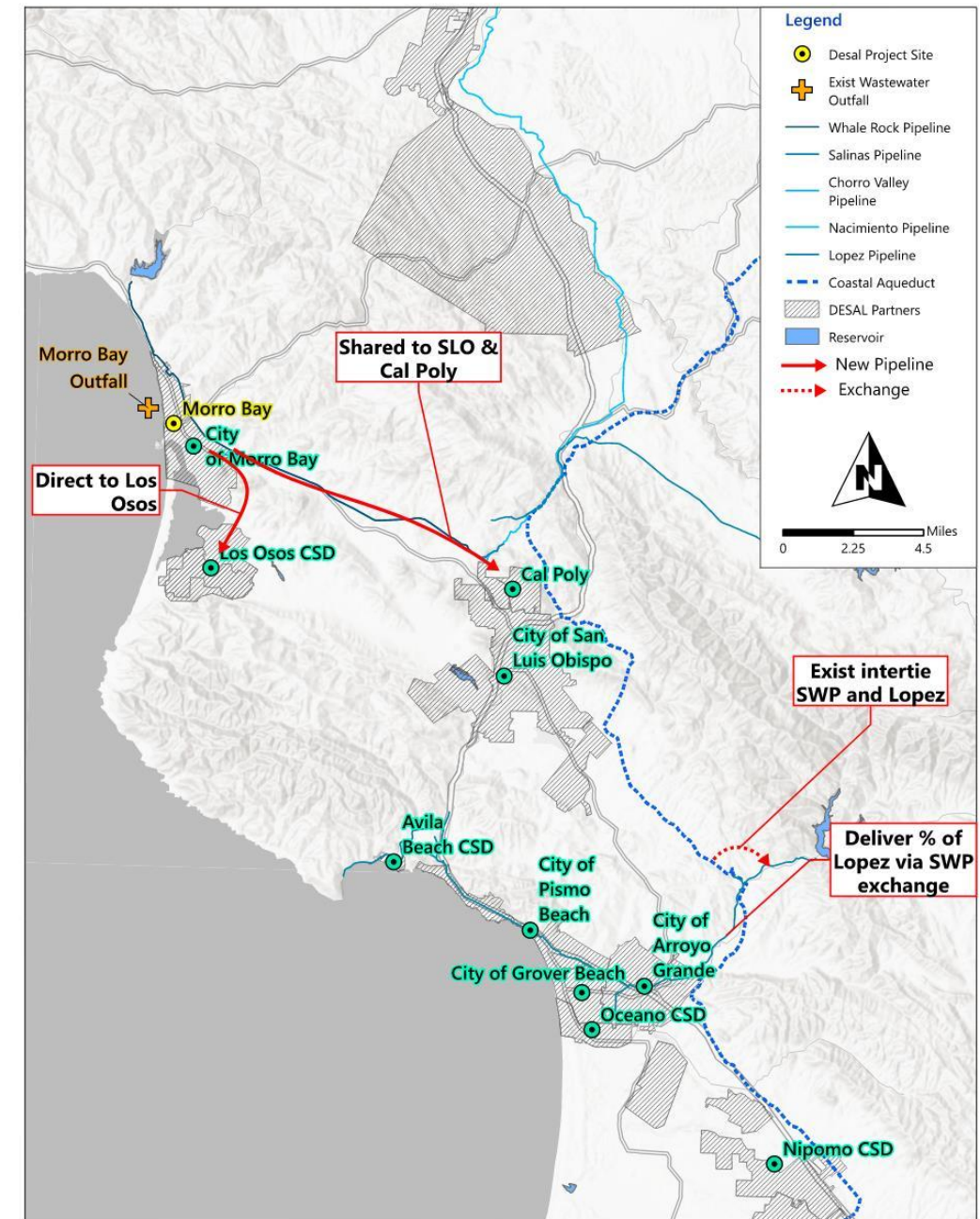
- Water Produced: 1900 AFY / 1.7 MGD
- Scenario supports:
 - » Local Direct Requests
 - » S. County users via Lopez/SWP exchange for Jurisdictional Release/Local Drought
- End Users:
 - » Los Osos – 600 AFY
 - » South County (Lopez) – 1300 AFY via MB SWP exchange
- Estimate of New Pipeline Lengths
 - » ~ 2.8 mi to Los Osos (Chorro intertie?)
- Outfall: Morro Bay



Alt 4.

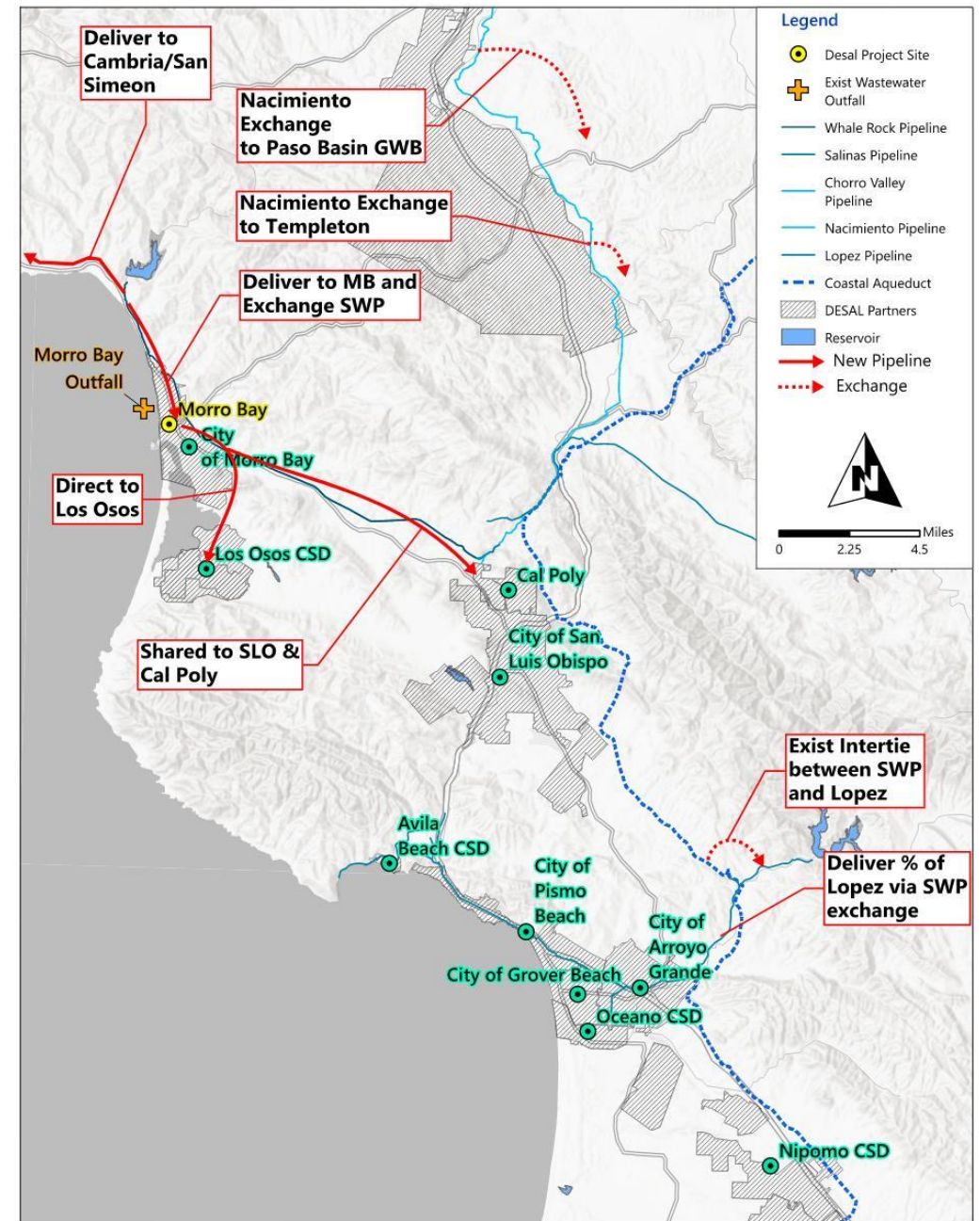
Alternative 5: Morro Bay (Medium) with Regional Pipelines South only

- Water Produced: 3415 AFY / 3.0 MGD
- Scenario supports:
 - » Direct Requests
 - » Jurisdictional Release/Local Drought
- End Users:
 - » Los Osos – 600 AFY
 - » SLO – 990 AFY
 - » Cal Poly - 300 AFY
 - » South County – 1525 AFY via exchange (direct requests, Lopez reductions)
- Estimate of New Pipeline Lengths
 - » ~2.8 mi to Los Osos
 - » ~17.4 mi to SLO
- Outfall: Morro Bay



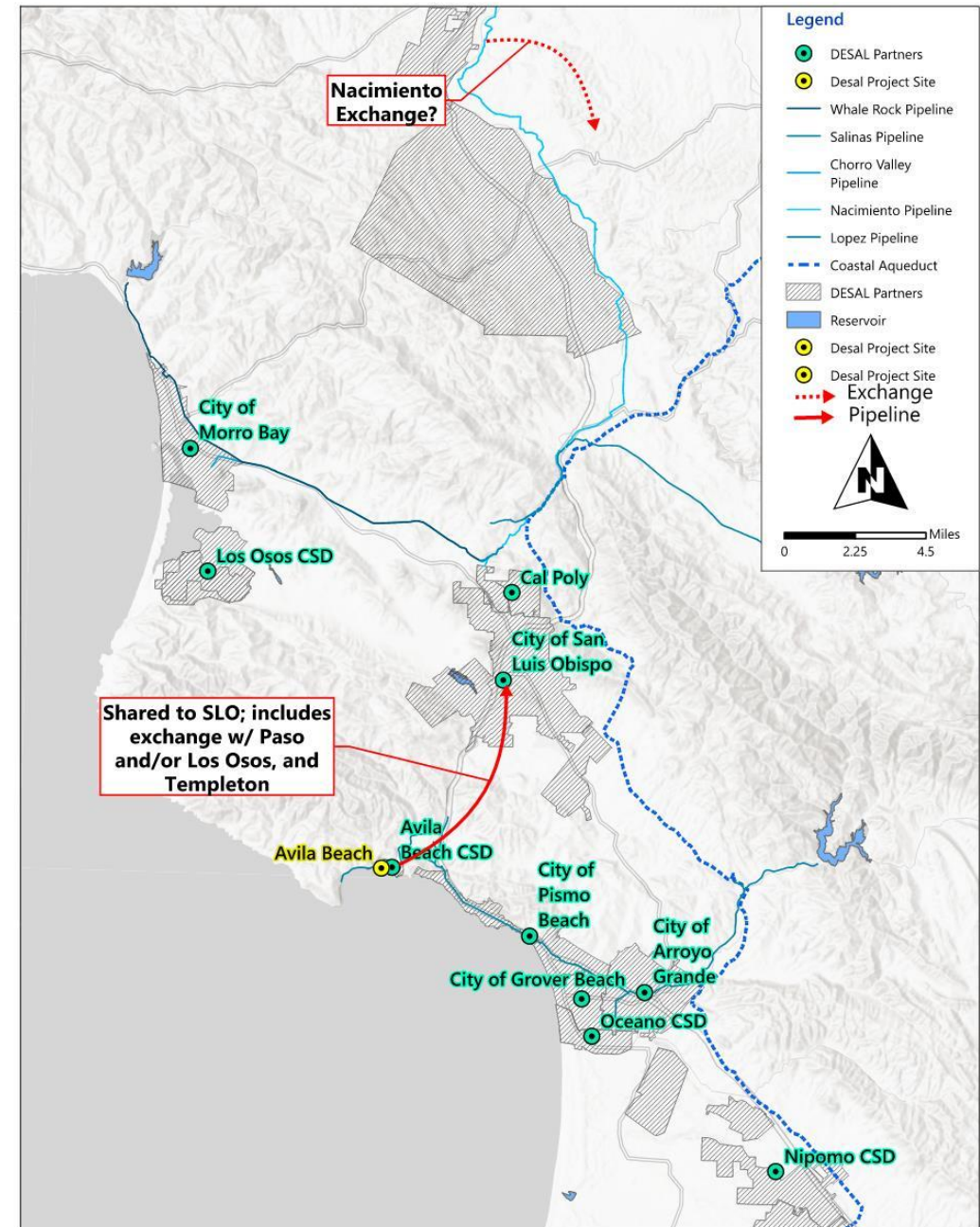
Alternative 6: Morro Bay (Large) with Regional Pipelines to N and S

- Water Produced: 7370 AFY / 6.6 MGD
- Scenario supports:
 - » Direct Requests, Jurisdictional Release/Drought
 - » Groundwater Sustainability
- End Users:
 - » North County (Cambria, San Simeon) – 330 AFY
 - » Los Osos – 600 AFY
 - » SLO – 990 AFY + Exchange Nacimiento exchange (3625 AFY for GW sustainability, Templeton)
 - » Cal Poly 300 AFY
 - » South County (Avila, AG, GB) – 1525 AFY
- Estimate of New Pipe Lengths
 - » ~2.8 mi to Los Osos, ~17.4 mi to SLO, ~23.7 mi to Cambria/San Simeon
- Outfall: Morro Bay



Alternative 7: Avila

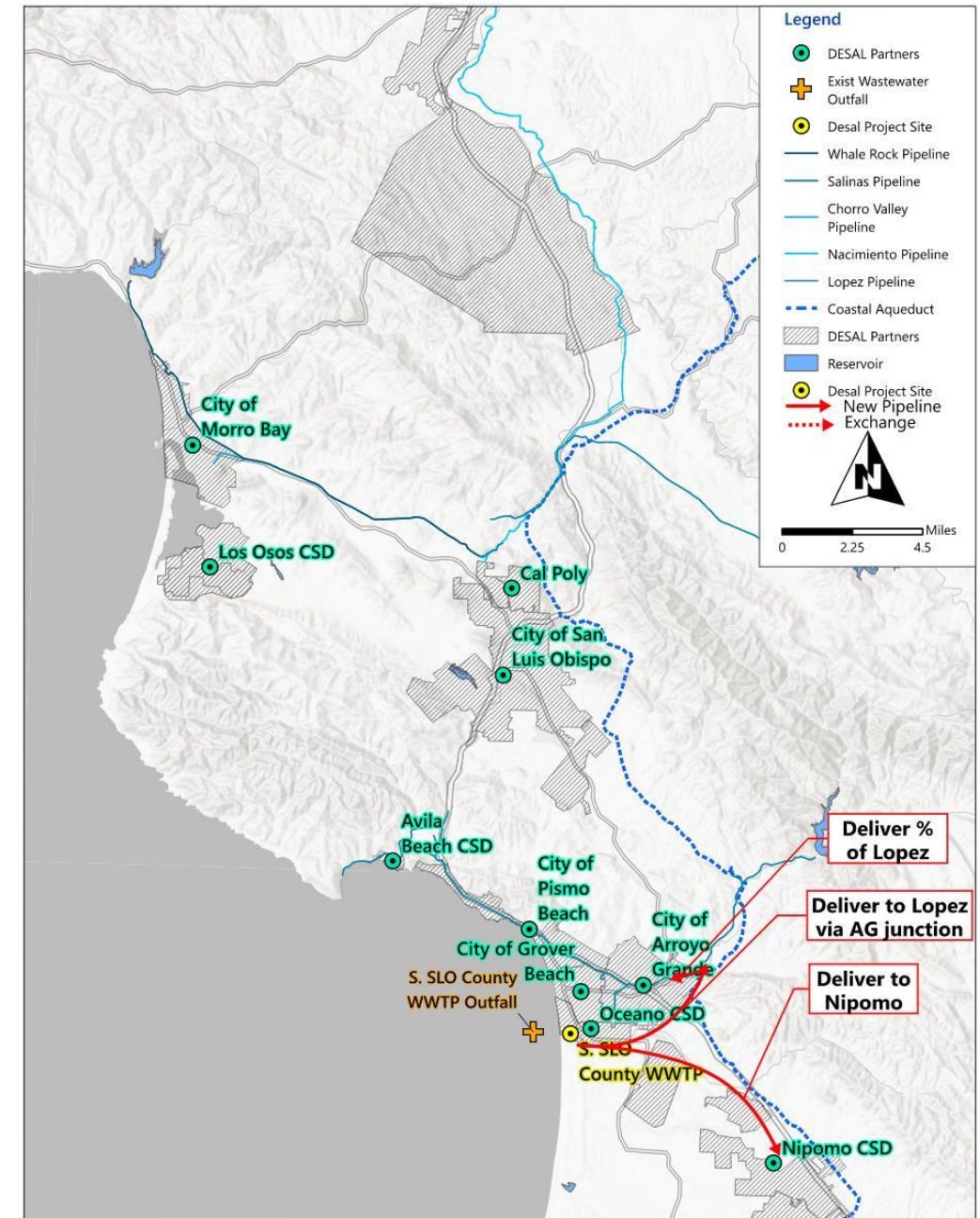
- Water Produced: 1191 AFY / 1.1 MGD (new outfall, thus could be larger)
- Scenario supports:
 - » Direct Requests
 - » Drought
 - » Groundwater Sustainability
- End Users:
 - » Avila Direct – 75 AFY + Avila (Lopez) – 10 AFY
 - » Cal Poly – 300 AFY
 - » San Luis Valley Basin – 100 AFY
 - » Nacimiento Exchange via SLO exchange:
 - Templeton – 100 AFY
 - » SLO (Salinas) – 606 AFY
 - » Could include Paso Basin? Or Los Osos?
- Estimate of New Pipeline Lengths
 - » ~7.8 mi to SLO
- Outfall: New Outfall Required



Alt 7.

Alternative 8: S. SLO WWTP (Small) to Lopez users + Nipomo

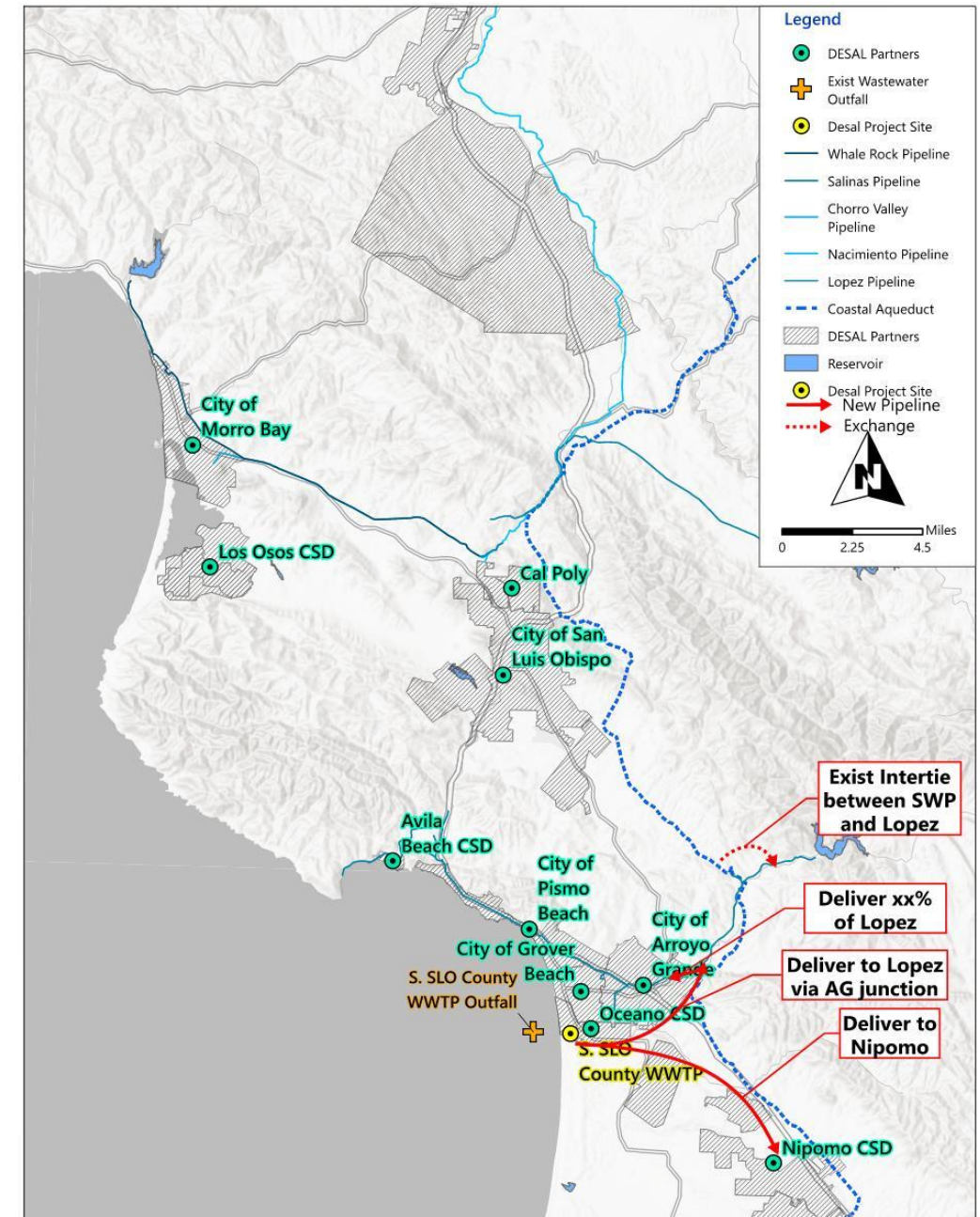
- Water Produced: 2065 AFY / 1.8 MGD
- Scenario supports:
 - » Direct Requests
 - » Jurisdictional Release/Local Drought
- End Users:
 - » South County (offsetting Lopez) – 1565 AFY
 - » Nipomo – 500 AFY
- Estimate of New Pipeline Lengths
 - » ~12.9 mi to Nipomo (closer intertie?)
 - » ~4.2 mi to Arroyo Grande
- Outfall: South SLO WWTP Outfall



Alt 8.

Alternative 9: S. SLO WWTP (Medium) to S. County (Lopez + SWP)

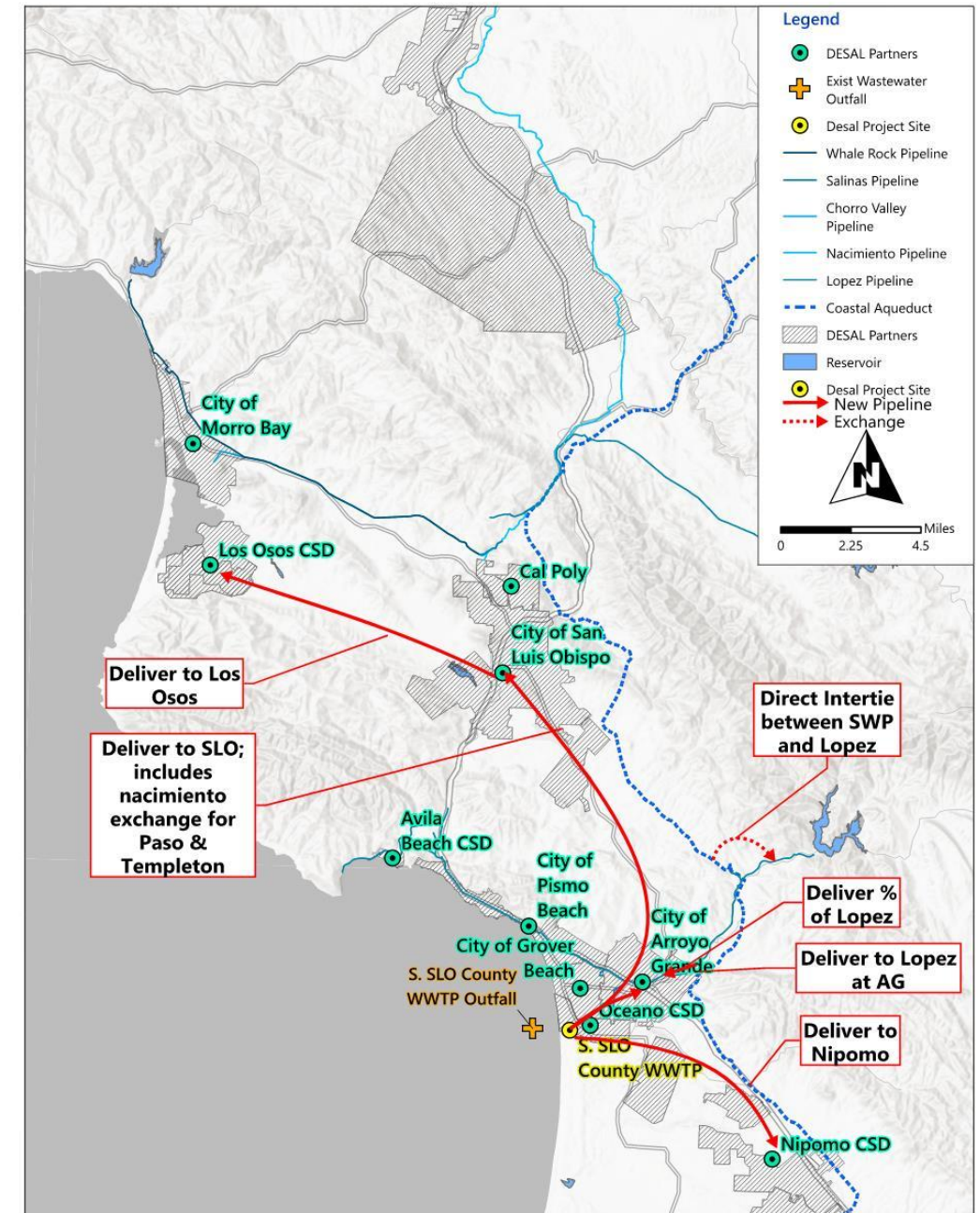
- Water Produced: 2822 AFY / 2.5 MGD
- Scenario supports:
 - » Direct Requests
 - » Jurisdictional Release and Regional Drought
- End Users:
 - » South County (offsetting Lopez and SWP) – 2322 AFY
 - » Nipomo – 500 AFY
- Estimate of New Pipeline Lengths
 - » ~12.9 mi to Nipomo (closer intertie?)
 - » ~4.2 mi to Arroyo Grande
- Outfall: South SLO WWTP Outfall



Alt 9.

Alternative 10: S. WWTP (Large) to South and Mid County

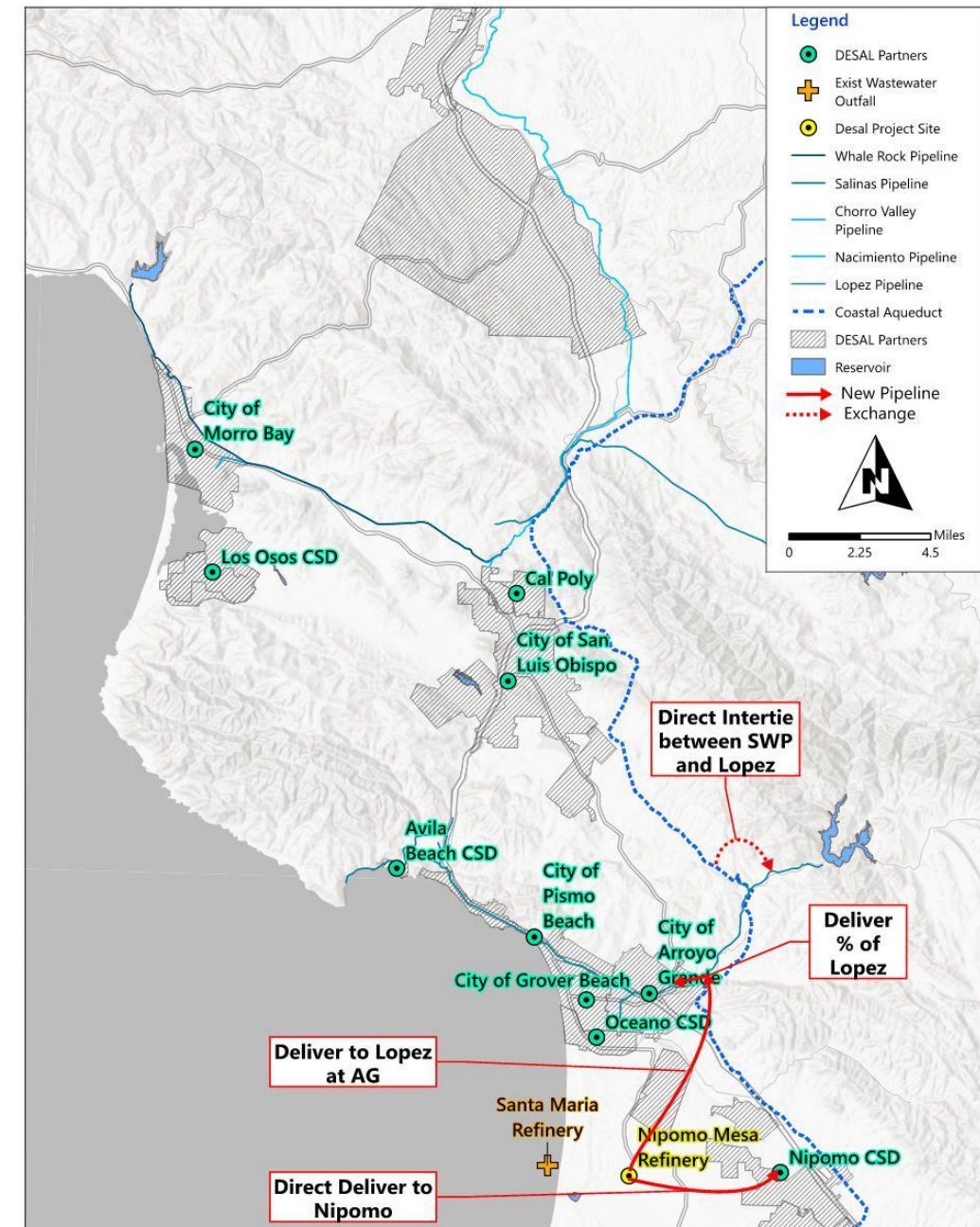
- Water Produced: 6771 AFY / 6.0 MGD
- Scenario supports:
 - » Direct Requests
 - » Jurisdictional Release and Regional Drought
 - » Groundwater Sustainability
- End Users:
 - » South County (offsetting Lopez and SWP) – 1213 AFY
 - » Nipomo – 766 AFY
 - » Groundwater offsets (Paso Basin, NCMA, NMMA, SLVGB, Templeton) – 3892 AFY
 - » Los Osos – 600 AFY
 - » Cal Poly – 300 AFY
- Estimate of New Pipeline Lengths:
 - » ~12.9 mi to Nipomo, ~4.2 mi to AG, ~15.0 mi to SLO, ~12.5 mi to Los Osos (from SLO)
- Outfall: South SLO WWTP Outfall



Alt 10.

Alternative 11: Nipomo Mesa

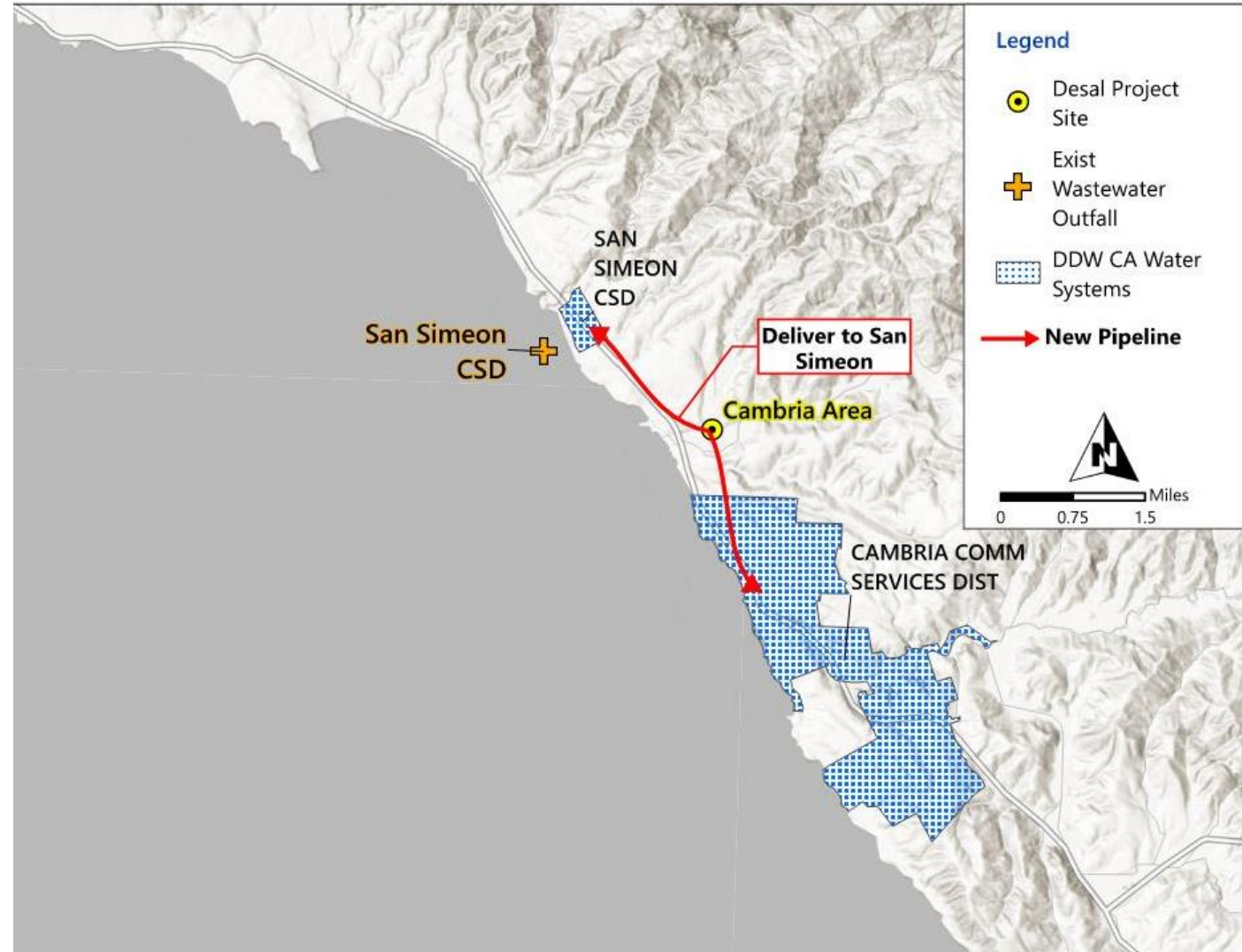
- Water Produced: 1,920 AFY / 1.7 MGD
- Scenario supports:
 - » Direct Requests
 - » Jurisdictional Release and Drought
- End Users:
 - » South County (offsetting Lopez) – 1245 AFY
 - » Nipomo – 500 AFY
 - » SB County – 175 AFY
- Estimate of New Pipeline Lengths
 - » ~7.0 mi to Nipomo
 - » ~6.3 mi to Arroyo Grande
- Outfall: Nipomo Mesa (Conoco/Phillips)



Alt 11.

Alternative 12: Alternative Technology in Cambria

- Water Produced: 330 AFY / 0.29 MGD
- Scenario supports:
 - » Local Direct Requests
- End Users:
 - » Cambria – 250 AFY
 - » San Simeon – 80 AFY
- Estimate of New Pipeline Lengths:
 - » ~1.6 mi to San Simeon
 - » ~2.5 mi to Cambria
- Outfall: None, use of alternative offshore technology

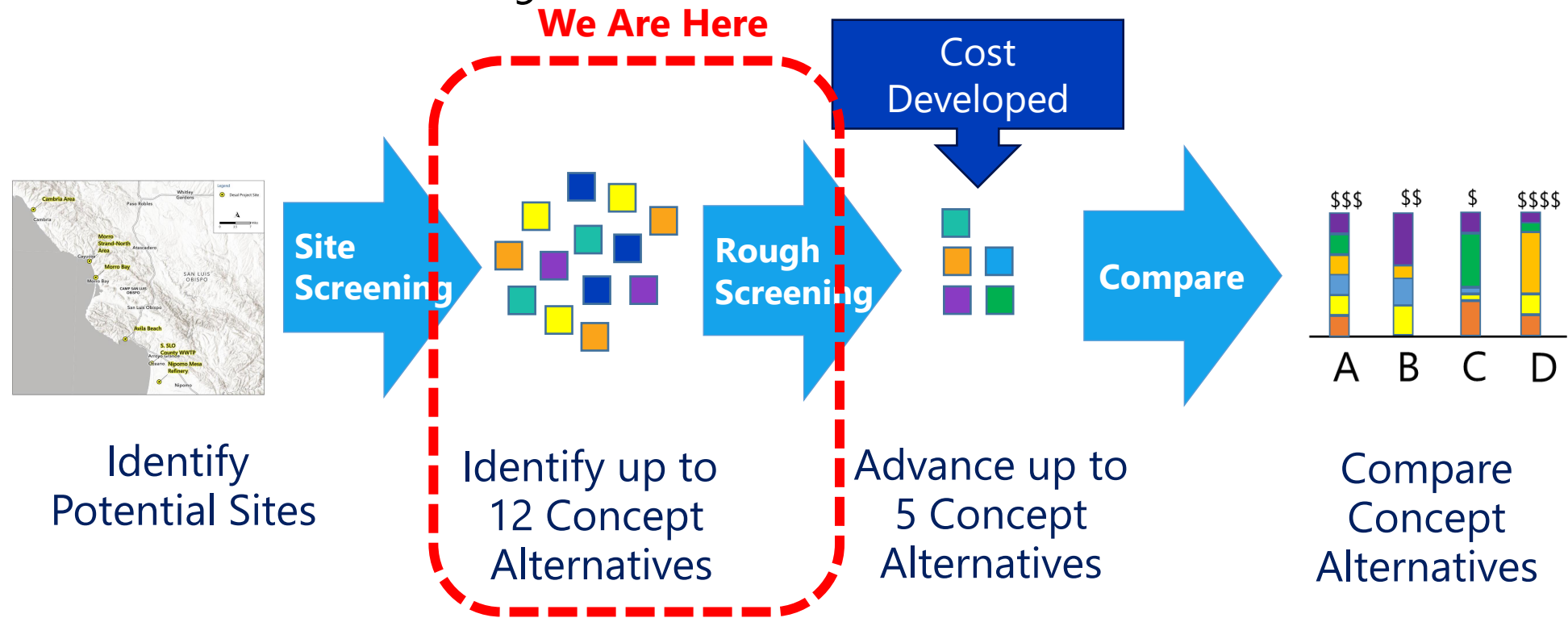


Questions/Comments on Alternatives?

Does this suite of alternatives make sense?
Anything else we need to be including?

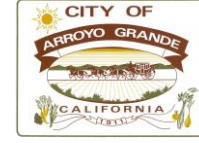
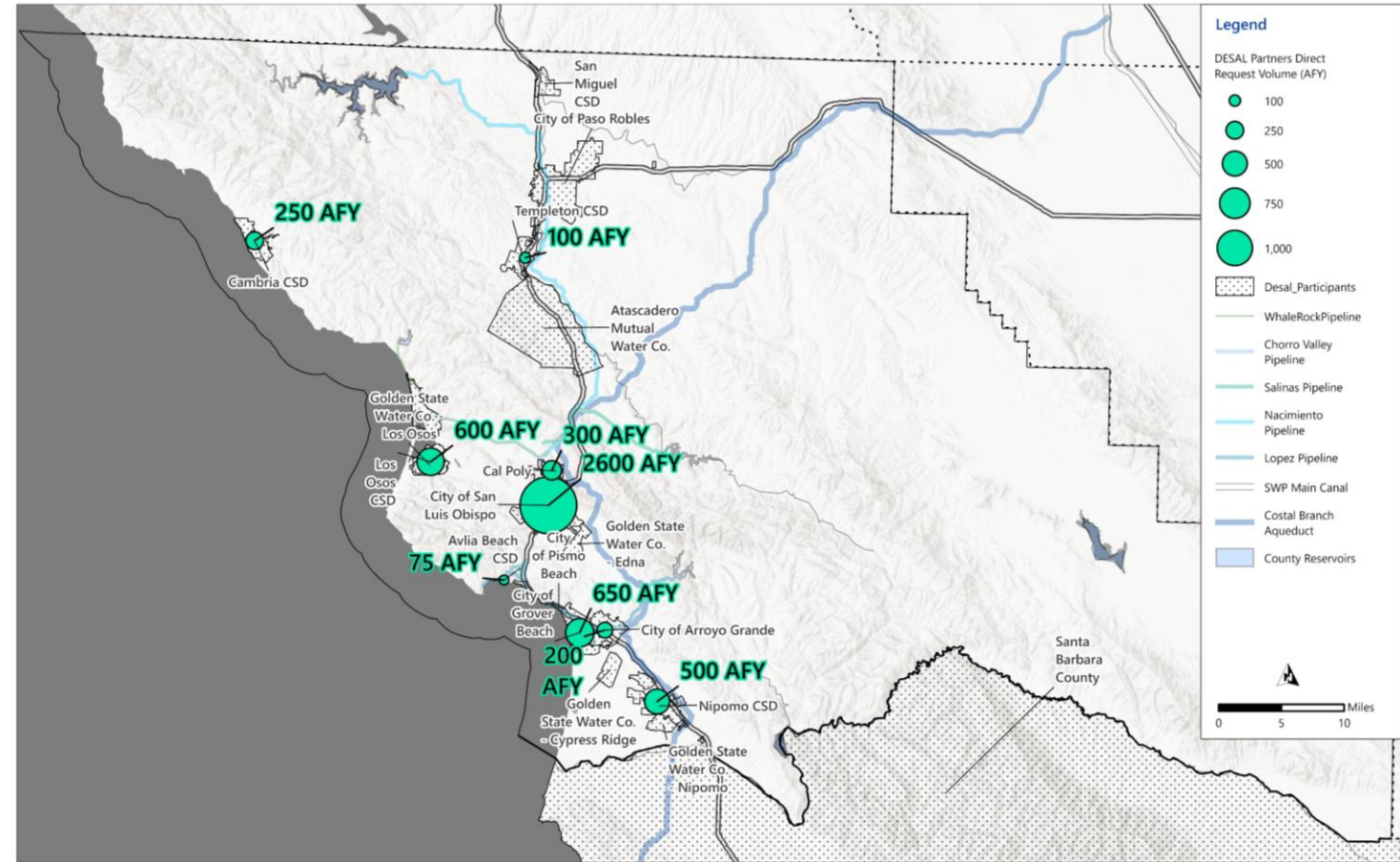
| Screening Process

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



Rough Screening from 12 to 5 Alternatives

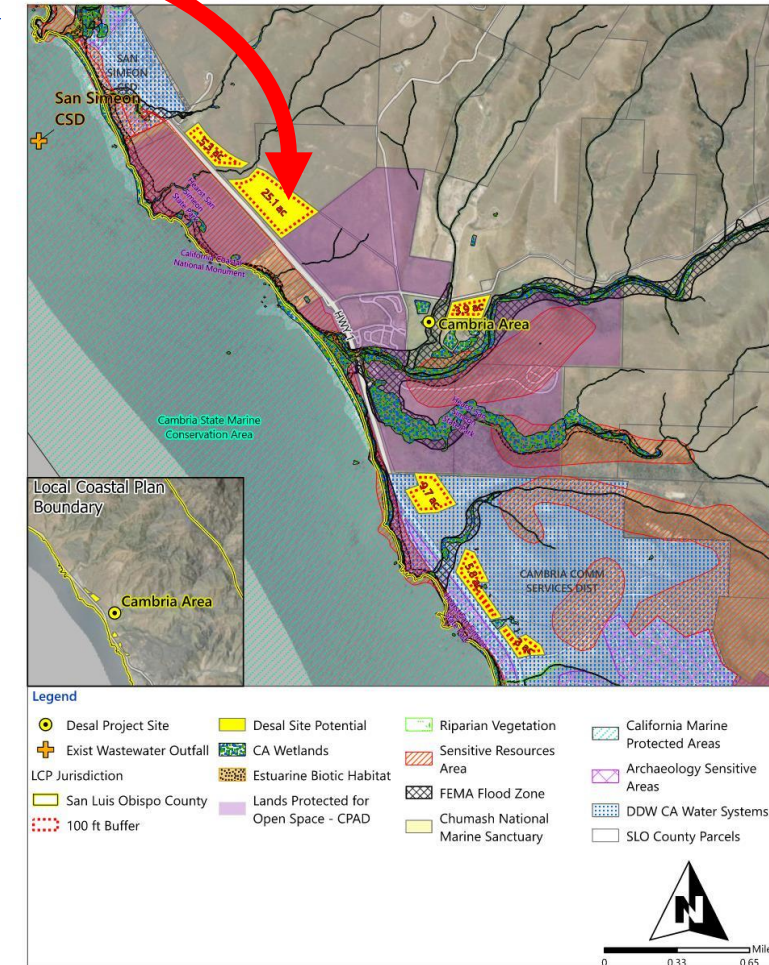
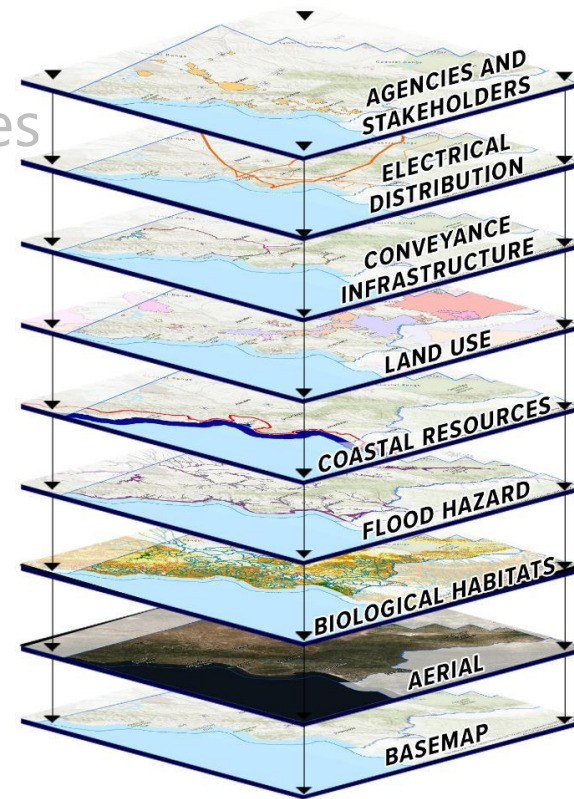
- **Identify potential partners/sites**
- Identify site constraints
- Identify technological /Permitting Constraints



Rough Screening from 12 to 5 Alternative

Identify Areas of Least Potential Impact

- Identify potential partners/sites
- **Identify site constraints**
- Identify technological /Permitting Constraints



Rough Screening from 12 to 5 Alternatives

- Identify potential partners/sites
- Identify site constraints
- **Identify technological /Permitting Constraints**



Additional Evaluation Criteria

Criteria Category	Evaluation Criteria	
Supply Benefit	Production Capacity	For screening from 12 to 5 alternatives
	Regional Benefit	
	Addressing Critical Need	
Desal Plant Location	Blending Sources Available for Outfall	
	Proximity to conveyance infrastructure & supply needs, and low hazards	
	Cultural Resources Impacts	
	Social/Neighbor Impacts	
	Environmental/Biological Habitat Impacts	
Implementation Considerations	Permitting Complexity	
	Partner Agency & Community Support	
	Partners Agreement Complexity	
	Operational Complexity	
Power Supply & Demand	Energy Supply Availability	For evaluating 5 alternatives
	Energy Demand/Footprint	
Cost	Capital Cost	
	Life Cycle Cost (incl. Energy/O&M)	
	Funding Potential	

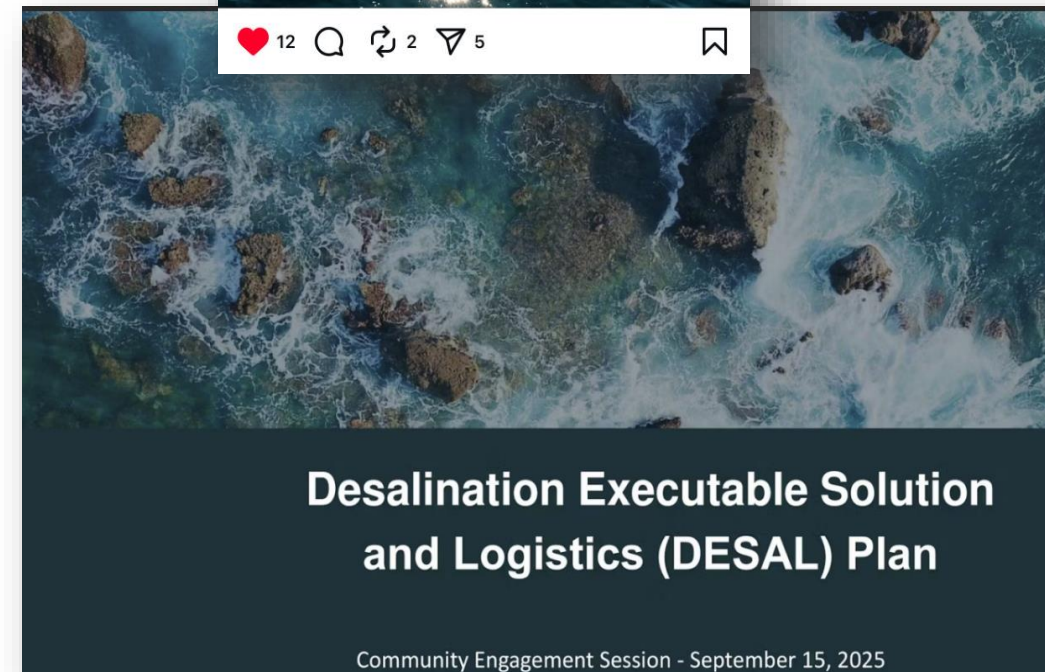
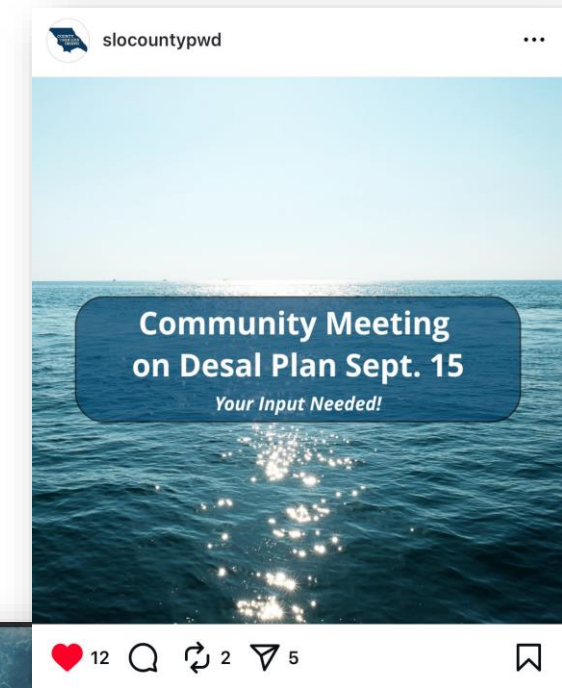
Questions/Comments on Screening Process?

Any criteria missing?

| Community Engagement Session & Related Outreach

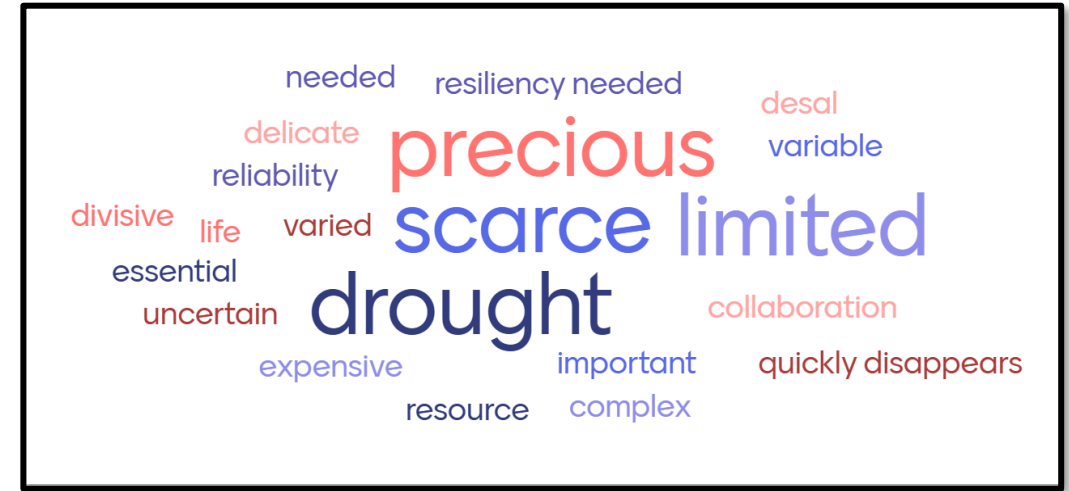
Recent Community Engagement

- **Website updates, FAQs, email blasts, media/social media**
- **Community Engagement Virtual Session: 9/15**
 - » Over 70 participants
 - » Great participation by DESAL Partners, community
 - » Opportunity for Q&A, community surveys, and suggestions
- **Online Community Survey: 8/25 – 9/22**
 - » 154 participants
 - » Opportunity to give perspective on regional water resources, desalination, communication



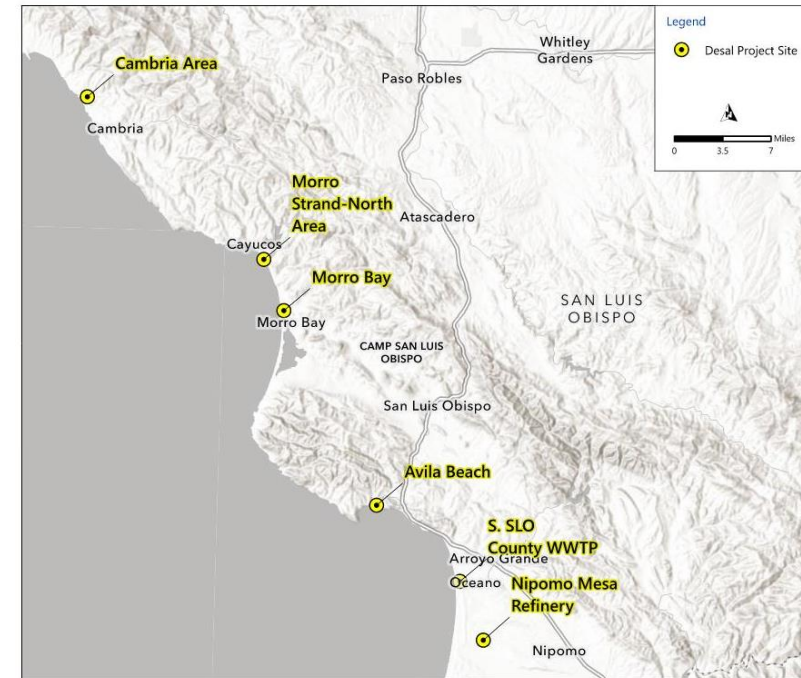
Community Engagement Session Input

- Words about our region's water future
 - » **Top themes:**
 - **Precious/essential (7)**
 - **Uncertain/variable (6)**
 - » Secondary themes: Drought, Complex, Reliability, Scarce
- Benefits of desalination in SLO County:
 - » **Top themes:**
 - **Resilience (8)**
 - **Reliability (5)**
 - » Secondary themes: Local control, regionally available
- Concerns with desalination in SLO County:
 - » **Top theme:**
 - **Costs (7)**
 - » Secondary themes: Enviro/cultural impacts, energy, industrialized coast



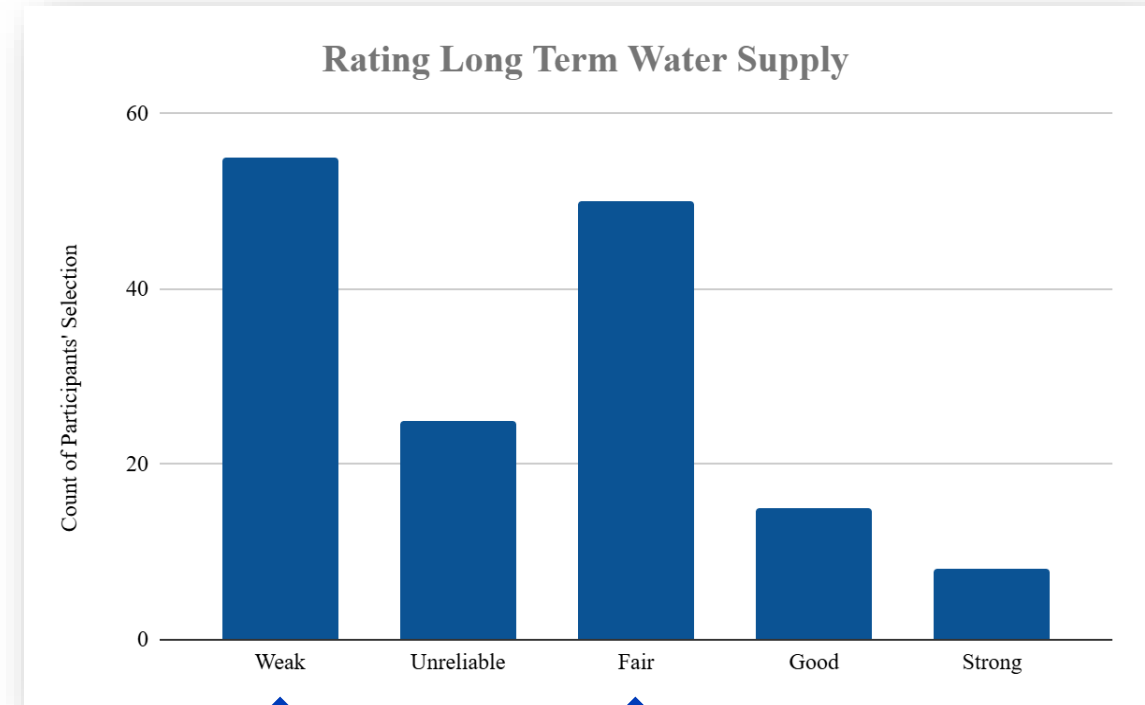
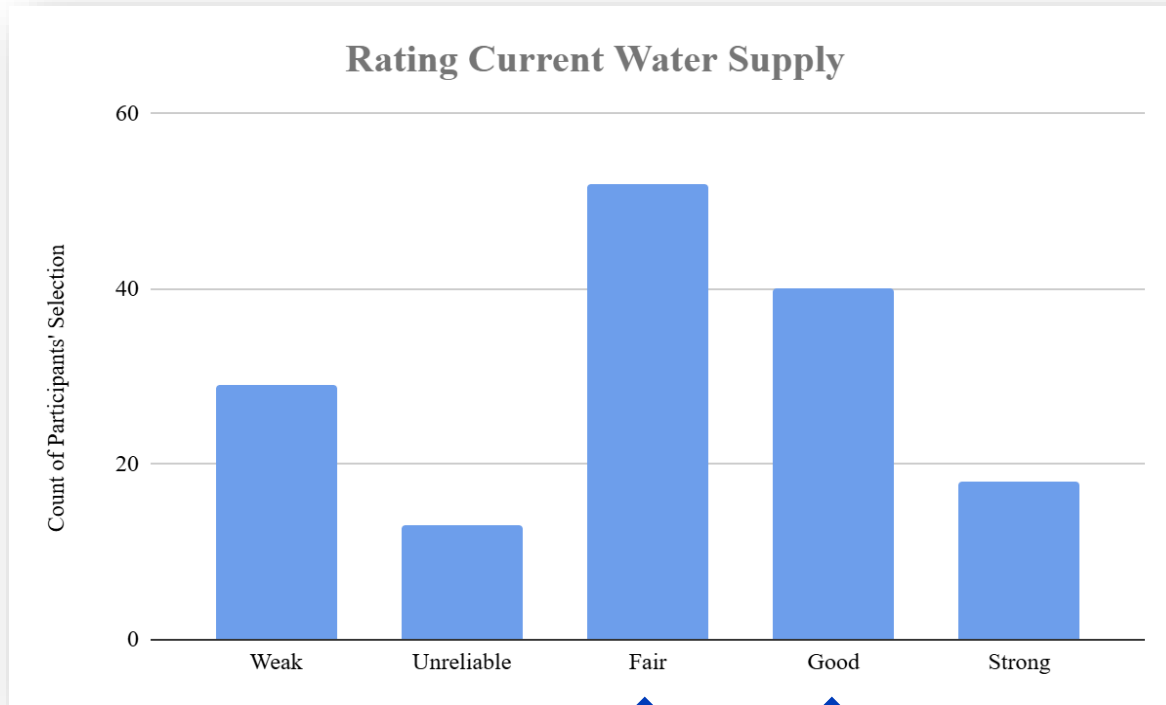
Community Engagement Session Input

- Screening criteria that matters most when siting a desal facility:
 - » **Top criteria:**
 - **Conveyance infrastructure required**
 - **Intake location**
 - » Secondary criteria: Aquatic enviro impacts, land impacts
- Some interest in all sites, but stronger preference for **South SLO and Nipomo Mesa**
- Priorities for developing alternatives:
 - » **Medium and Large Regional Projects**
- Feasibility criteria that's important when thinking about desal?
 - » **Top criteria:**
 - **Facility siting/location**
 - **Water rate impacts**
 - » Secondary criteria: Brine disposal, energy consumption, enviro/cultural/historical impacts



Online Community Survey Input: Water Resources

- 96.8% participants feel they are aware of current supply sources
- ~70% participants feel there is a need for more water (and 15% unsure)



Online Community Survey Input: Desalination

- Subregions of participants
 - » North Coast (43%)
 - » Central County (18%)
 - » South County (27%)
 - » North County (11%)
- 76.6% participants feel it is possible to implement desalination in SLO County
- Ranking feasibility criteria when considering desalination:
 - » **Top ranked:**
 - **Environmental impacts**
 - **Facility construction cost**
 - **Operating costs**

Questions/Comments on Community Engagement?

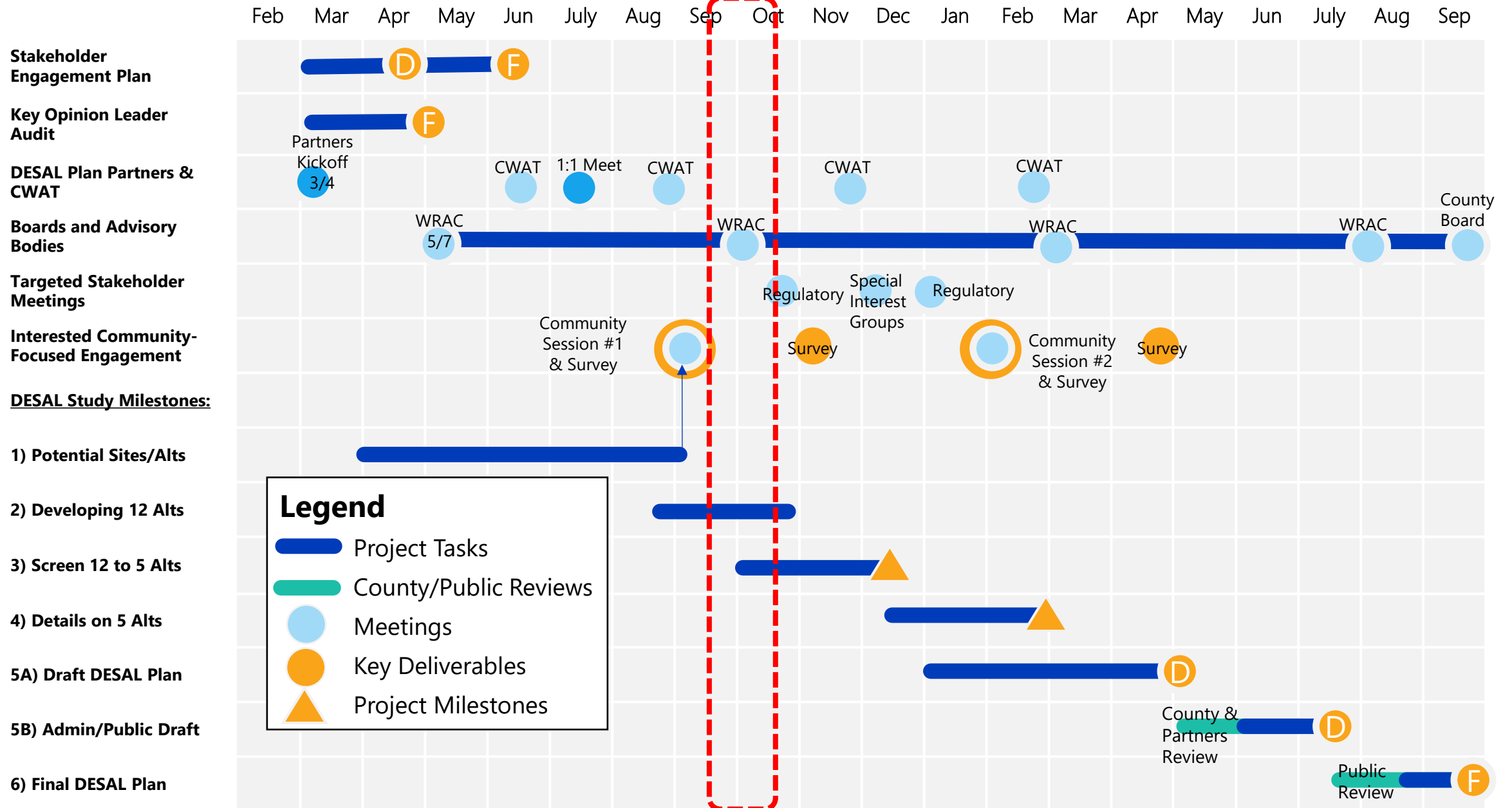
Did any of these results surprise you?

| Next Steps

Next Steps

- Evaluate up to 12 concept alternatives at a high level
- Refining screening criteria/weighting and testing
- Screen to 5 viable alternatives to develop in more detail
- Support outreach efforts related to Community Engagement Session & concurrent survey
- Next WRAC Meeting and Public Workshop: Q1 2026 - TBD

– Schedule with Engagement Milestones



| Thank You