One Water and Adaptation Committee

Introduction to the CAMP4W Assessments and Initial Assessment of Pure Water

Item 6e

July 7, 2025

Item 6e
CAMP4W Assessment

Subject

Climate Adaptation Master Plan Assessments

Purpose

Introduce the CAMP4W assessment phase and provide preliminary results for Pure Water Southern California

Special Note

- Information is current as of June 25, 2025
- Information included in this presentation is subject to change and will change
- Discussing only one project today, but others and their portfolios will be provided in upcoming months
- Each project will be presented to the Board according to the project timelines

Climate Adaptation Master Plan for Water

An Iterative and Adaptive Process

CAMP4W integrates

- water resources planning
- infrastructure development
- climate adaptation
- finance planning

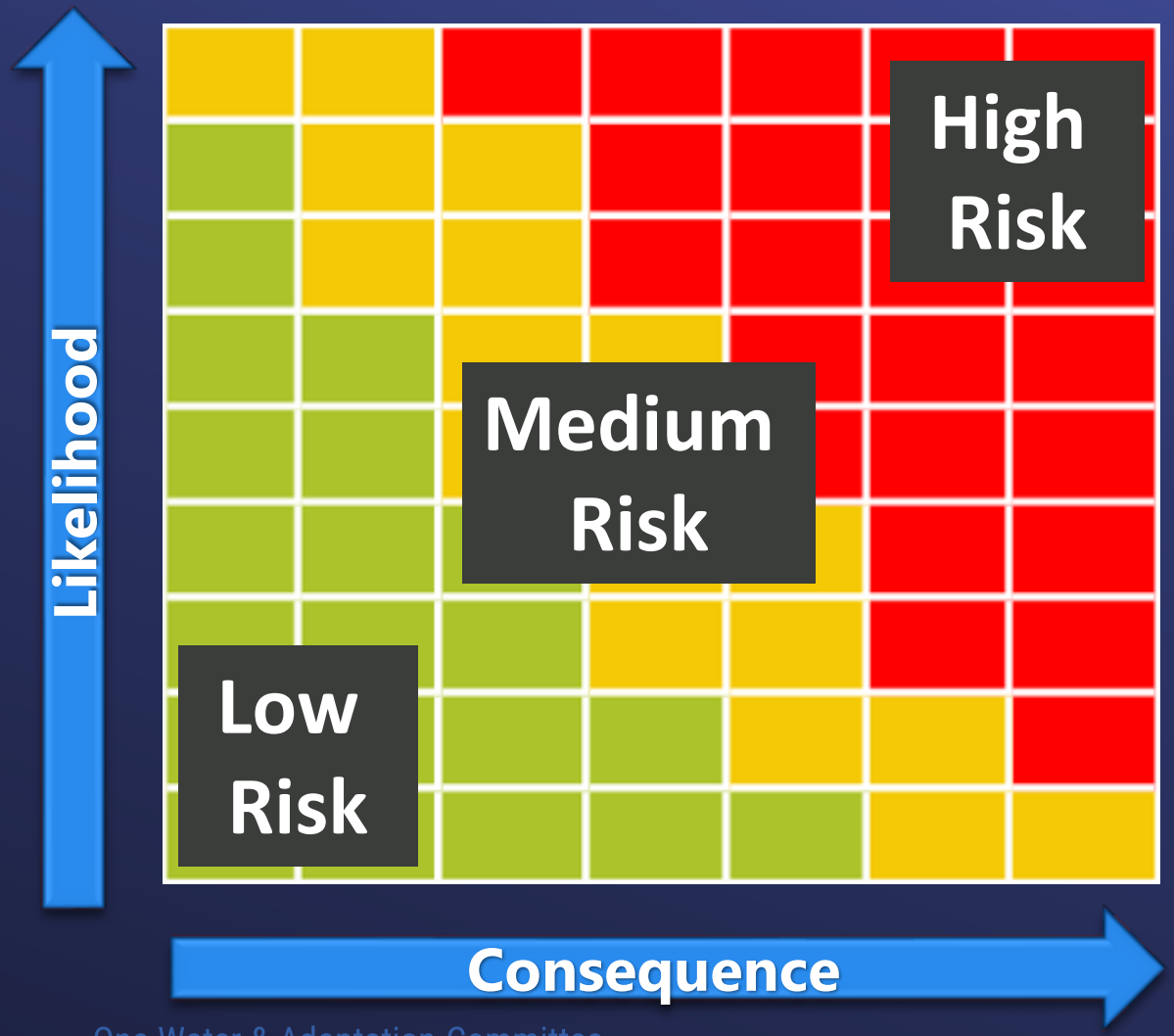
into one interconnected and iterative process.

Purpose

- Familiarize the Board with the assessment process
- Provide a consistent assessment of projects through a lens of water resources, financial planning, and climate adaptation
- Prepare the Board for project decision-making

Integrating Risk into Asset Management and Resource Planning

Assess climate risks and vulnerabilities



Set Time-Bound Targets and Policy Goals

CATEGORY		NEAR TERM	MID TERM	LONG TERM
	Core Supply[1]	N/A	Identify 300 TAF for potential implementation	Identify 650 TAF for potential implementation by 2045.
H_2O	Storage	Identify up to 500 TAF for potential implementation by 2035		
	Flex Supply (Dry Year Equivalent)	Acquire capability for up to 100 TAFY		

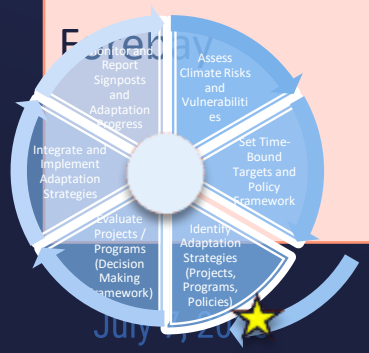
Long-term: 500 TAF of new core supply
500 TAF of new storage
100 TAF of dry-year flexible supply

Set Time-Bound Targets and Policy Goals

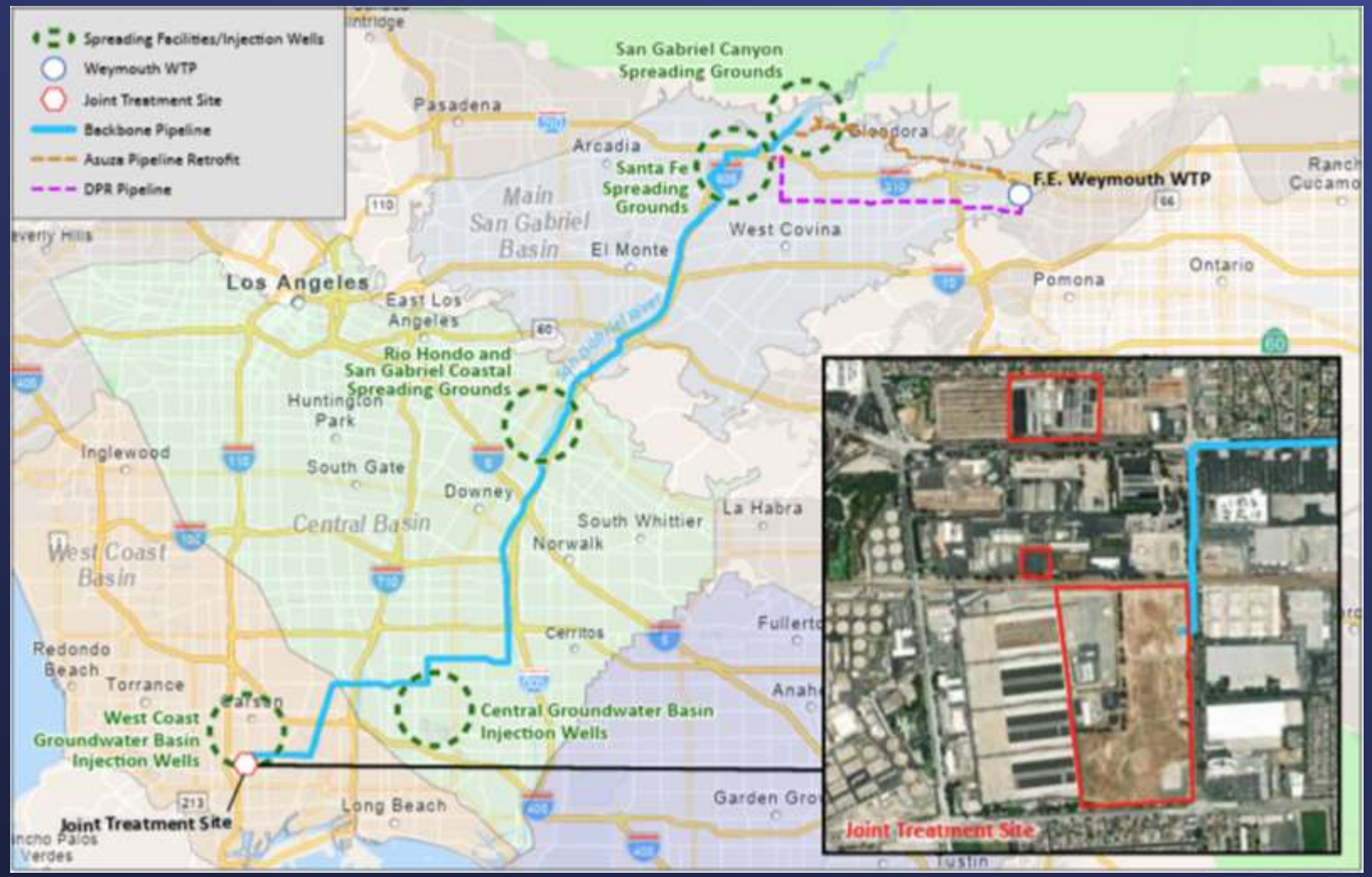
CATEGORY	NEAR TERM	MID TERM	LONG TERM
Equitable Supply Reliability	Add 160 CFS capacity to the SWPDA by 2027	Implement additional 130 CFS capacity to SWPDA by 2032	Implement capacity, conveyance, supply, and programs for SWPDA by 2045
Local Agency Supply[1]	Maintain 2.09 to 2.32 MAF (under average year conditions)	2.12 to 2.37 MAF (under average year conditions)	2.14 to 2.40 MAF (under average year conditions)
Demand Management[2]	Implement structural conservation programs to achieve 300 TAF by 2045		
Regional Water Use Efficiency	Assist Retail Agencies to achieve, or exceed, compliance with SWRCB Water Use Efficiency Standards[3]		
	GPCD target for 2030[4]	GPCD target for 2035	GPCD target for 2045
Greenhouse Gas Reduction	N/A	40% below 1990 emission levels by 2030	Carbon Neutral by 2045

Identify Adaptation Strategies (Projects & Programs)

Projects	Studies	Programs, Policies, Initiatives
AVEK Phase II	Forest Watershed Restoration Pilot	Resilient Infrastructure Guidelines
Delta Conveyance Project	Surface Water Storage Study	Local Resources Program Review
Sites Reservoir	System Overview Study	Member Agency Exchange Program
Webb Tract Restoration	System Flexibility Study	Fire Management Planning
Pure Water Southern California	Energy Sustainability Plan Update	Landscape Guidelines
Battery Energy Storage Systems	Regional E-W Conveyance Study	Affordability Policy
Sepulveda Feeder Stage 2	DVL Pumped Storage Expansion Study	Climate Vulnerability Assessments
DVL Pumped Storage w/ Existing	Brackish GW Desal Study	Community Engagement Standards
F[illegible]ek	Seawater Desal Study	**Turf Replacement Programs**
	CRA Transmission Strategic Plan	Leak Detection Subsidies Program



Pure Water Southern California – Preliminary Assessment



- 150-mgd Program
  - Phase 1: 115 mgd by 2035
  - Phase 2: +35 mgd by 2040
- Facilities:
  - Advanced Water Purification Facility
  - 39-mile Backbone Pipeline
  - Direct Potable Reuse Pipelines
  - Pump Stations
  - Service Connections
  - Recharge Facilities

Final assessment in November will reflect updated program cost & schedule information

Evaluative Criteria

Each **project** or **program** would be considered through a robust narrative description of how project attributes achieve each objective

Descriptions could include:
- ✓ Quantitative metrics
- ✓ Qualitative information
- ✓ Gaps in information available

Evaluative Criteria
Reliability
Resilience
Financial Sustainability & Affordability
Adaptability & Flexibility
Equity
Environmental Co-benefits

Exceptional	Significant	Moderate	Limited	Very Limited

*Preliminary assessment not rated; Ratings will be provided in the final assessment in November

Evaluative Criteria - Reliability

Reliability

- Preliminary modeling results indicate that Pure Water at 150 mgd with raw water augmentation at Weymouth and Diemer improves Metropolitan's regional water supply reliability by reducing the probability and magnitude of projected future shortages through 2045 in both Scenarios C and D
- Pure Water would help regularly replenish three major groundwater basins and potentially reduce the risk of loss of groundwater production during dry years
- Pure Water can provide supplies to SWP Dependent Areas and the blended Central Pool area
- Pure Water can offset imported water demands and enable storage of those imported supplies for use in dry years
- Proposed projects, such as Pure Water Los Angeles, are needed to maximize the water supply reliability benefits of the project at 150 mgd

Results as of Jun. 25 and subject to change

Evaluative Criteria - Resilience

Resilience

Seismic

- A local supply west of the San Andreas Fault substantially increases the region's seismic resilience

Extreme Heat/Flooding/Wildfire:

- A local source to supplement imported supplies when the regional demand is expected to increase under extreme heat
- A local supply to enhance regional reliability when the CRA supply is affected by erosion caused by intensive desert storms
- Storage in various groundwater basins enhances the region's capability to combat multiple wildfires

Results as of Jun. 25 and subject to change

Evaluative Criteria – Financial Sustainability & Affordability

in 2023 dollars

Project Costs and Overall Rate Impacts	Phase 1 + Phase 2
Capital Construction Cost[a]	**$5.8B**
Annual Capital Financing Costs[b]	$388M
Annual O&M Cost	$167M
Annual R&R Cost	$68M
Production Yield	150 MGD (154,600 AF)
Year of Completion[c]	2040
Overall Melded Cost Increase[d]	32%
Average Annual Cost Increase Over Construction Period[e]	2.2%/yr

Unit Costs	Phase 1 + Phase 2
Point-in-Time Unit Cost	$3,200/AF
Lifecycle Unit Cost	$1,800/AF

Point-in-Time Unit Cost assumes all debt is issued at once in year one and the project is full operation in year one.
Lifecycle Unit Cost estimates the average unit cost over the 100-year project life and includes needed replacements and refurbishments (R&R).

a. *Capital costs in 2023 dollars are net of Sanitation District scope items, no upsized pipe, secured grant awards, and partner contributions.*
b. *Assuming 100% debt financed for this analysis at 4% rate / 30-year term*
c. *Assumes deliveries start in 2040 (Pure Water buildout), however due to the project phasing, Phase 1 deliveries are anticipated as early as 2033 through 2035. The final financial analysis for the November assessment will incorporate the phased deliveries timing in the analysis.*
d. *Calculation assumes the project is 100% debt financed over the construction period. If the project is partially funded by PAYGO, it will increase the short-term rate impact*
e. *Based on Metropolitan's 2024/25 Revenue Requirement of $1,550M, over the period from 2025-2040*

Results as of Jun. 25 and subject to change

Evaluative Criteria – Adaptability & Flexibility

Adaptability & Flexibility

- Increases systemwide flexibility for storing and conveying water supplies by diversifying the water resource portfolio with a reliable local water supply
- Directly benefits SWP Dependent Areas (east and west) by offsetting SWP demands through replenishment of the West Basin, Central Basin, and Main San Gabriel Basins
- In limited areas where treated water demand decreases, the potential for nitrification may increase
- Addition of DPR water at Weymouth and Diemer WTPs improves overall system operational flexibility
- Improves the flexibility of existing and future assets (Sepulveda Feeder Pump Station, Diamond Valley Lake to Rialto, East-West Conveyance, etc.) and ability to adjust to system-wide changes

Results as of Jun. 25 and subject to change

Evaluative Criteria - Equity

Equity

- Pure Water directly benefits communities (including disadvantaged communities) through workforce development, small business opportunities, community-focused design, improved water supply reliability & quality, community space and other programs
- Robust community outreach program has resulted in engagement with a diverse stakeholder group (15 program partners including Colorado River partners, tribal organizations, local cities, environmental groups, community-based organizations, business groups, and many others)
- Broad community support (72 letters of support received for LSRWP Grant) due to extensive collaboration with the public; steps being taken to address concerns related to energy demands, cost and public perception of water quality

Results as of Jun. 25 and subject to change

Evaluative Criteria – Environmental Co-Benefits

Environmental Co-Benefits
• Consistent with Metropolitan's climate goals • Sustains groundwater and ecosystems • Reduces reliance on imported water • Improves habitat quality • Supports water quality improvements

Results as of Jun. 25 and subject to change

Next Steps

- Prepare additional assessments prior to the Pure Water decision
  - Sites Reservoir
  - Additional Conservation
  - Delta Conveyance
  - Portfolios of these projects


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928

Evaluative Criteria

Reliability

To what extent does it help meet regional supply reliability objectives under changing climate conditions?

1. MWD replenishment deliveries average 213 TAF, often constrained by drought, regulatory restrictions, or replenishment purchase patterns.
2. Groundwater storage has dropped by 1 MAF since 2000.
3. Reusing wastewater currently discharged to the ocean.
4. Reuse would mitigate regional shortages and groundwater loss due to declining basin levels.

Results as of Jun. 25 and subject to change

Evaluative Criteria - Resilience

Resilience

How does it perform under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)?

Extreme heat:

1. Much of the facility is climate-controlled.
2. Shade covers provide protection for chemical tanks.
3. High-temperature resistant electrical equipment will be deployed.
4. The Heat Illness Prevention Program will apply to all employees.

Wildfire:

1. Facility located in a densely urbanized area of Carson and falls outside of Moderate, High, or Very-High Hazard Severity Zones.

Results as of Jun. 25 and subject to change

Evaluative Criteria

Resilience

How does it perform under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)?

Extreme heat:

1. Much of the facility is climate-controlled.
2. Shade covers provide protection for chemical tanks.
3. High-temperature resistant electrical equipment will be deployed.
4. Emergency power supply system supplements outside power when external grids are strained under extreme heat.

Wildfire:

1. Facility located in a densely urbanized area of Carson and falls outside of Moderate, High, or Very-High Hazard Severity Zones.

Results as of Jun. 25 and subject to change

Evaluative Criteria

Resilience

How does it maintain system reliability, including delivery and water quality, under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)? ***Drought is addressed in Reliability***

Extreme heat:

1. A local source to supplement imported supplies when the regional demand is expected to increase under extreme heat.

Flooding:

1. A local supply to enhance regional reliability when the CRA supply is affected by erosion caused by intensive desert storms.

Wildfire:

1. Storage in various groundwater basins enhances the region's capability to combat multiple wildfires.

Alternative slide to highlight the project's benefits to regional resilience.

Results as of Jun. 25 and subject to change

Evaluative Criteria

Resilience

How does it maintain system reliability, including delivery and water quality, under identified climate vulnerabilities and hazards (e.g., extreme heat, wildfire, sea level rise, flooding)? Any resilient co-benefits (e.g., seismic)? ***Drought is addressed in Reliability***

Extreme heat/Flooding/Wildfire:

1. A local source to supplement imported supplies when the regional demand is expected to increase under extreme heat.
2. A local supply to enhance regional reliability when the CRA supply is affected by erosion caused by intensive desert storms.
3. Storage in various groundwater basins enhances the region's capability to combat multiple wildfires.

Seismic:

1. A local supply west of the San Andreas Fault substantially increases the region's seismic resilience.

Alternative slide to highlight the project's benefits to regional resilience, including seismic.

Results as of Jun. 25 and subject to change

Evaluative Criteria – Financial Sustainability & Affordability

Capital Cost: $5.8 Billion (2023 dollars)
Year of Completion: 2040
Point-in-Time Unit Cost: $3,200/AF
Lifecycle Unit Cost: $1,800/AF

Key Assumptions:

- *Based on 2023 program cost estimate for the full program (150 mgd), deducting secured grants & partner contributions received to date & the Sanitation Districts' pre-treatment facilities*
- *Includes planning, design, construction & financing costs*
- *Does not account for phased deliveries starting in 2033*
- *Program costs will be updated in the Fall*

Financial Sustainability & Affordability

ost of the project? What is the unit cost/acre-foot in current year dollars?

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