Subcommittee on CAMP4W

Preliminary CAMP4W Assessments for Pure Water and Sites Reservoir

Item 3c

September 30, 2025

Item 3c

Purpose

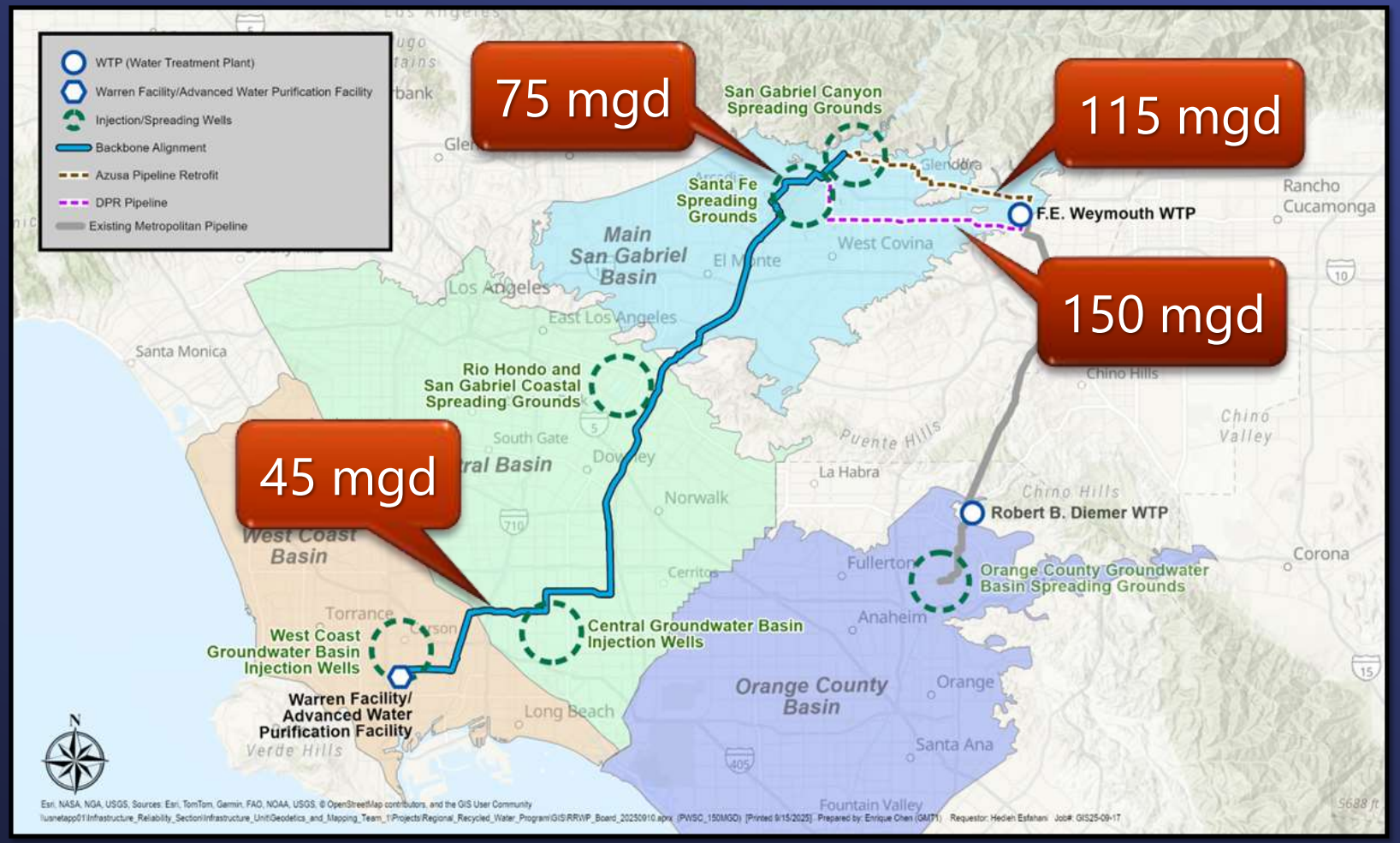
- Provide preliminary results for Pure Water Southern California (45, 75, and 150 mgd) and Sites Reservoir Project
- Provide a consistent assessment of projects through a lens of water resources, financial planning, and climate adaptation
- Receive feedback

Special Notes

- Information is current as of Sep. 24, 2025
- Information included in this presentation is subject to change
- Each project will be presented to the Board according to its respective timeline

Pure Water Southern California

Pure Water Southern California – Preliminary Assessment



Staged assessment and adaptation

- 45 mgd
- 75 mgd
- 115 mgd*
- 150 mgd

*Not considered in this analysis

Evaluative Criteria

- Reliability
- Resilience
- Financial Sustainability/Affordability
- Adaptability & Flexibility
- Equity
- Environmental Co-Benefits

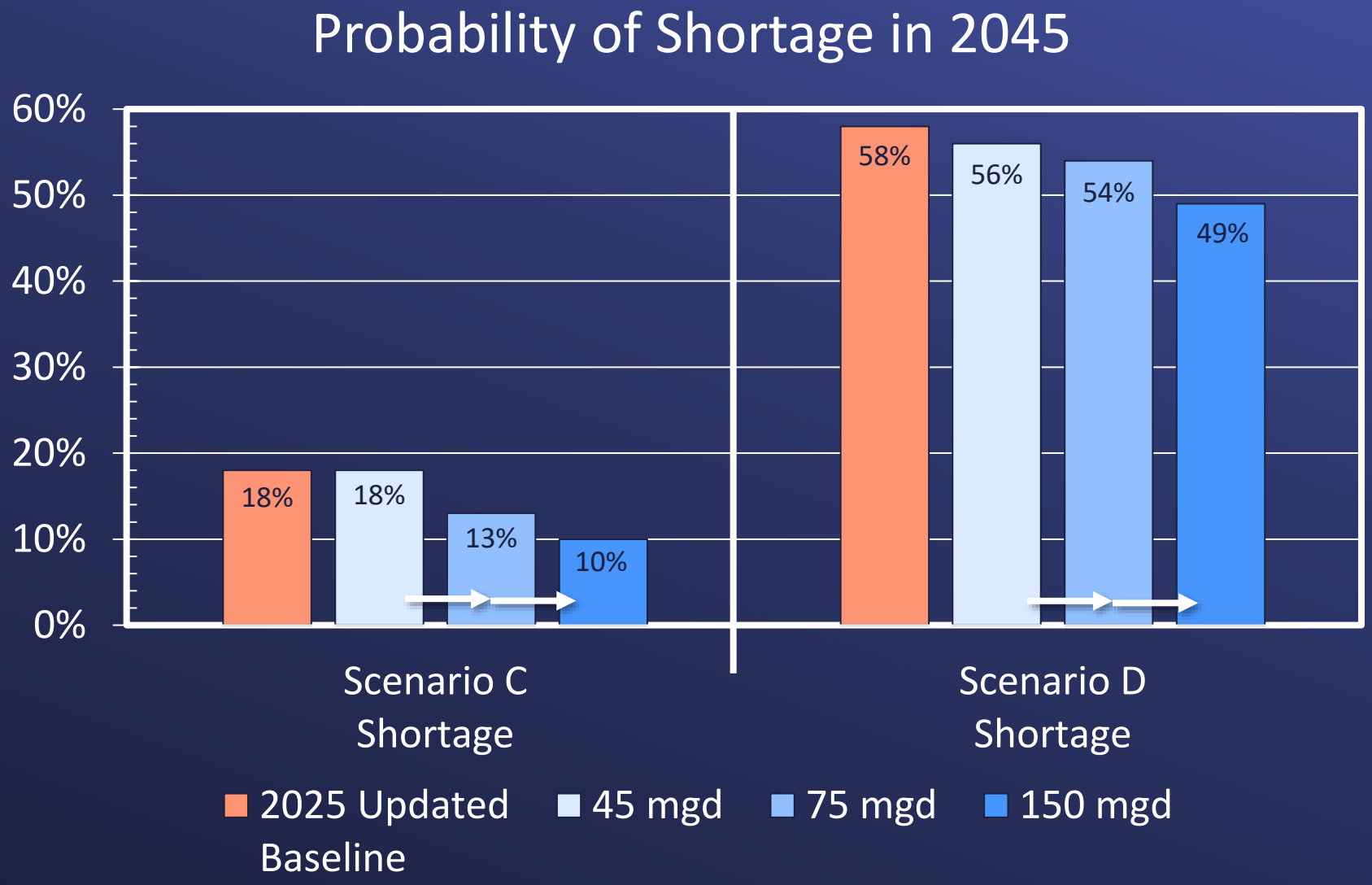
Summary of Pure Water Staging

	45 mgd 46 TAF/yr	75 mgd 77 TAF/yr	150 mgd 155 TAF/yr
Groundwater Basins Replenished	West Coast, Central	West Coast, Central, and Main San Gabriel	West Coast, Central, and Main San Gabriel
Large-Diameter Pipeline	~10 mi.	~37 mi.	~50 mi.
Direct Potable Reuse?	No	No	Yes
On-line Date	2035	2036	2041

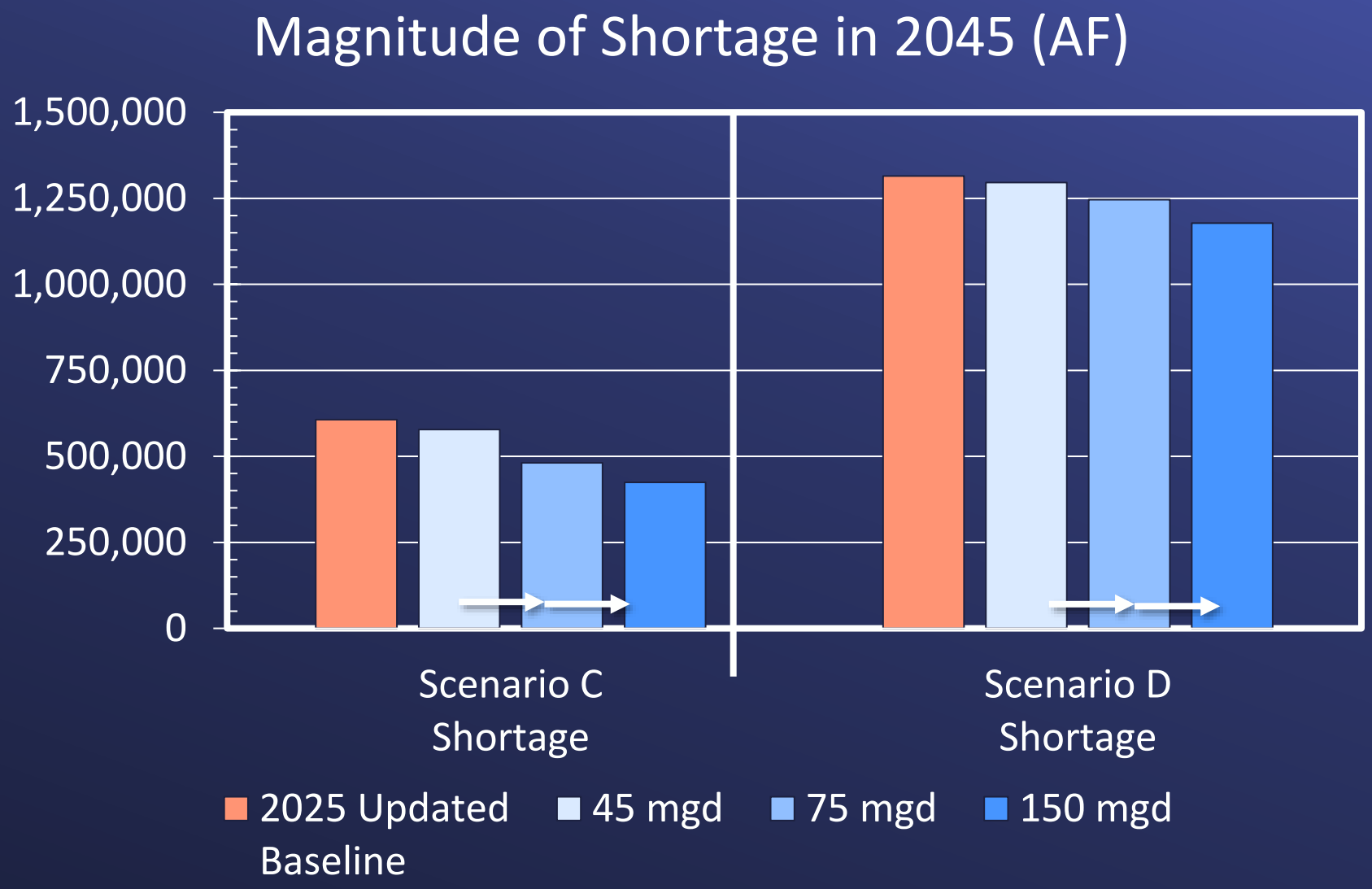
Reliability

- Supply performance
- Equitable reliability

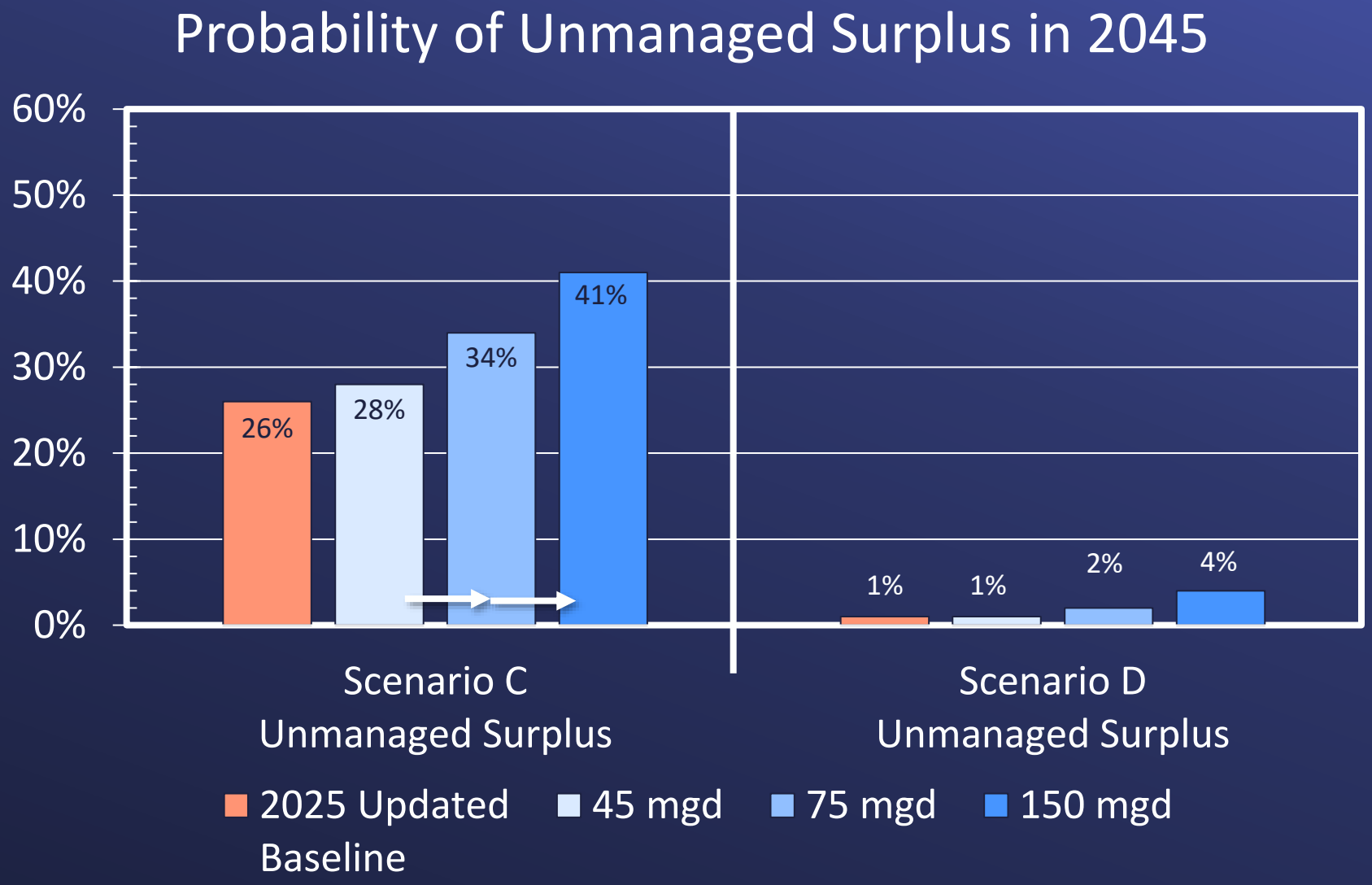
Reliability – Pure Water Southern California



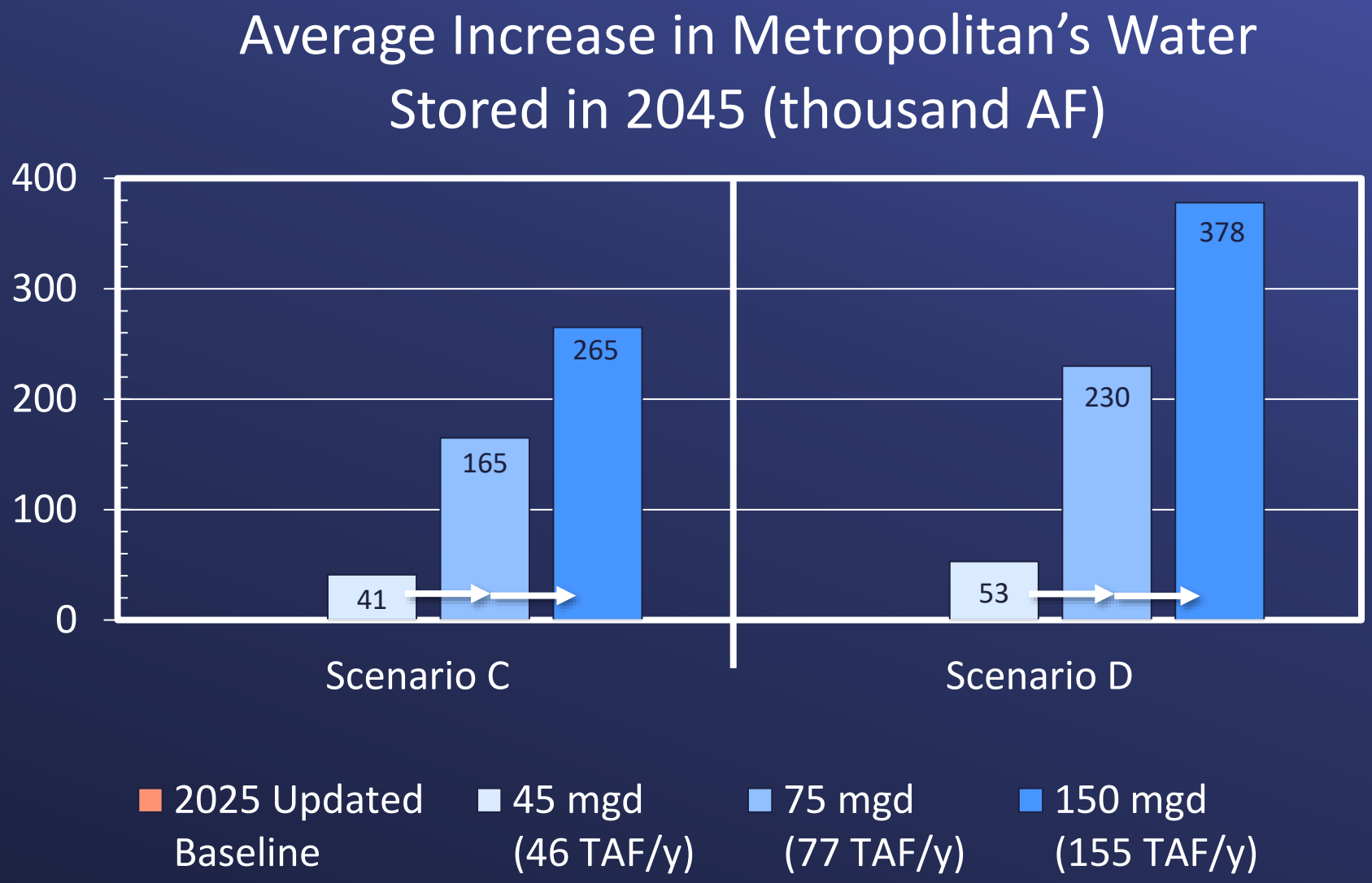
Reliability – Pure Water Southern California



Reliability – Pure Water Southern California



Reliability – Pure Water Southern California



Resilience

- Performance under identified climate vulnerabilities and hazards
  - Extreme heat
  - Wildfire
  - Sea level rise
  - Flooding
- Resilience co-benefits
  - Seismic
  - Water quality

Evaluative Criteria – Resilience (Pure Water)

45 mgd	75 mgd	150 mgd
• A local supply west of the San Andreas Fault substantially increases the region's seismic resilience • A local supply to enhance regional reliability if the CRA supply is affected by erosion caused by intensive desert storms	45 mgd attributes plus: • In-region flooding may affect operations because of restrictions in groundwater basin recharge • A local source to supplement imported supplies when the regional demand is expected to increase under extreme heat	75 mgd attributes plus: • Reduces total dissolved solids, which increase during droughts, to better achieve 500 mg/L objective

Financial Sustainability and Affordability

- Unit costs

Pure Water -- Financial Sustainability and Affordability

Item	45 mgd 46 TAF/yr	75 mgd 77 TAF/yr	150 mgd 155 TAF/yr
Capital Construction Cost[a]	$2.7B	$6.9B	$9.6B
Annual Capital Financing Cost[b]	$154M	$401M	$557M
Annual O&M Cost	$89M	$125M	$245M
Annual R&R Cost	$33M	$78M	$125M
Year of Completion	2035	2036	2041

[a] Capital cost to Metropolitan net of $212M in State & Federal grants.
[b] Assuming capital is 100% debt financed at 4% interest rate / 30-year term.

Pure Water -- Financial Sustainability and Affordability

Item	45 mgd 46 TAF/yr	75 mgd 77 TAF/yr	150 mgd 155 TAF/yr
Overall Melded Cost Increase[a]	14%	31%	47%
Ave. Annual Cost Increase over Construction Period[b]	1.6%/yr	3.1%/yr	3.2%/yr
Point-in-Time Unit Cost[c]	$5,200/AF	$6,800/AF	$5,200/AF
Lifecycle Unit Cost[d]	$3,100/AF	$3,400/AF	$2,900/AF

[a] Estimated by totaling the annual financing and O&M costs and dividing by Metropolitan's 2025/26 Revenue Requirement of $1,693 M.

[b] The rate increase in any one year can be substantially higher, depending on many factors, including whether the project is partially funded by PAYGO.

[c] Assumes all debt issued in year 1 and full operation in year 1.

[d] Average unit cost over 100-year project life includes replacement and refurbishment costs.

Adaptability & Flexibility

- Ability to adjust to systemwide changes
  - Water quality
  - Source water
  - Distribution interruption
- Complexity
- Phasing
  - Project staging allows for adaptive management
- Implementation risk

Evaluative Criteria – Adaptability & Flexibility (Pure Water)

45 mgd	75 mgd	150 mgd
• Project staging allows for adaptive management • Limited IPR flexibility to buffer seasonal demand changes. Storage may be needed at 45 mgd, and not needed at 75 or 150 mgd, which could result in a stranded asset • Less complex and easier to implement compared to 75- and 150-mgd (fewer permits, resources, and facilities needed; no recharge basins or DPR components)	• Directly benefits SWP Dependent Areas by offsetting SWP demands through replenishment of the Main San Gabriel Basin • Golden/Quagga mussel-free recharge supply • Increases systemwide flexibility for storing and conveying water supplies by diversifying the water resource portfolio with a reliable local water supply	• Addition of DPR water at Weymouth and Diemer WTPs improves overall system operational flexibility; but also increases complexity • Improves the flexibility of future assets (Sepulveda Feeder Pump Station, East-West Conveyance, etc.) and ability to adjust to system-wide changes, including water quality and source water interruptions

Note: The benefits are not necessarily exclusive to each option.

Equity

- Programs for underserved communities
- Scale of community engagement
- Public health benefits
- Workforce development

Evaluative Criteria – Equity (Pure Water)

Equity (similar results for 45, 75, & 150 mgd stages)

- 40 – 50% of the population served are from disadvantaged communities (DACs)
- ~70% of the population within 1 mile of facilities are from DACs
- Job-years created depend on the built capacity
- Pure Water directly benefits communities (including DACs) 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 Large-Scale Water Recycling grant) due to extensive collaboration with the public
- Concerns remain, including energy demands, cost, and public perception of water quality

Environmental Co-Benefits

- Greenhouse gas emissions
- Ecosystem services
- Habitat/wildlife benefits

Evaluative Criteria – Environmental Co-Benefits (Pure Water)

Environmental Co-Benefits (results scale for 45, 75, & 150 mgd stages)

- Sustains groundwater and ecosystems
- Improves habitat quality at construction sites and spreading grounds
- Improves water quality of wastewater discharges to the ocean
- Consistent with Metropolitan's climate goals, and would remain within carbon budget
- Greenhouse gas emissions during operation
  - 116,000 metric tons CO_2-e for 150 mgd
  - 58,000 metric tons CO_2-e for 75 mgd
  - 30,000 metric tons CO_2-e for 45 mgd

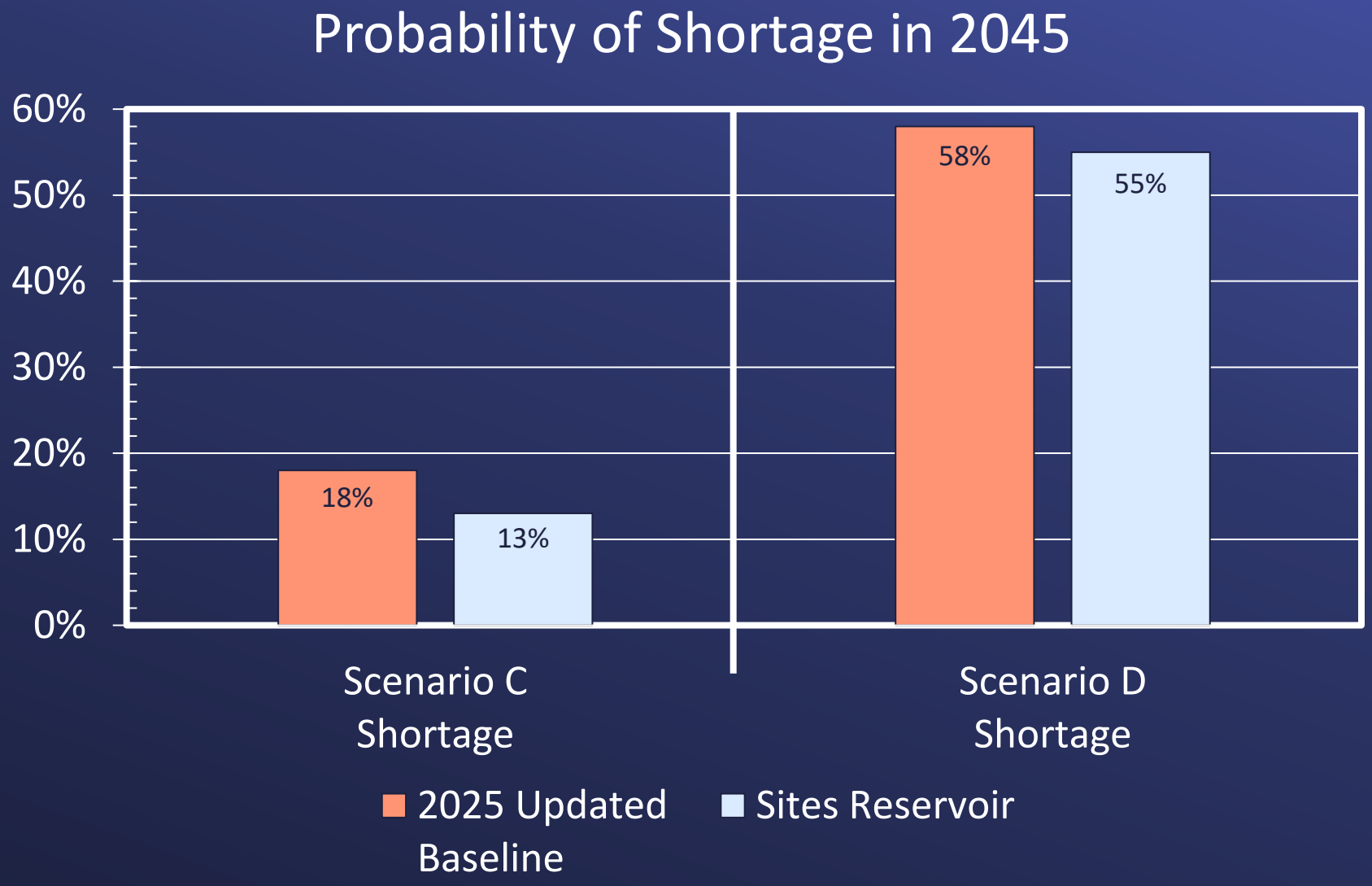
Sites Reservoir

Preliminary Assessment Sites Reservoir

- 1.5 MAF off-stream reservoir
- Located North of Delta
- Utilizes existing regional and service area infrastructure
- MWD current planning share of 22.1% equivalent to 312 TAF of storage space
- Statewide participation
- Dry Year Flex Supply

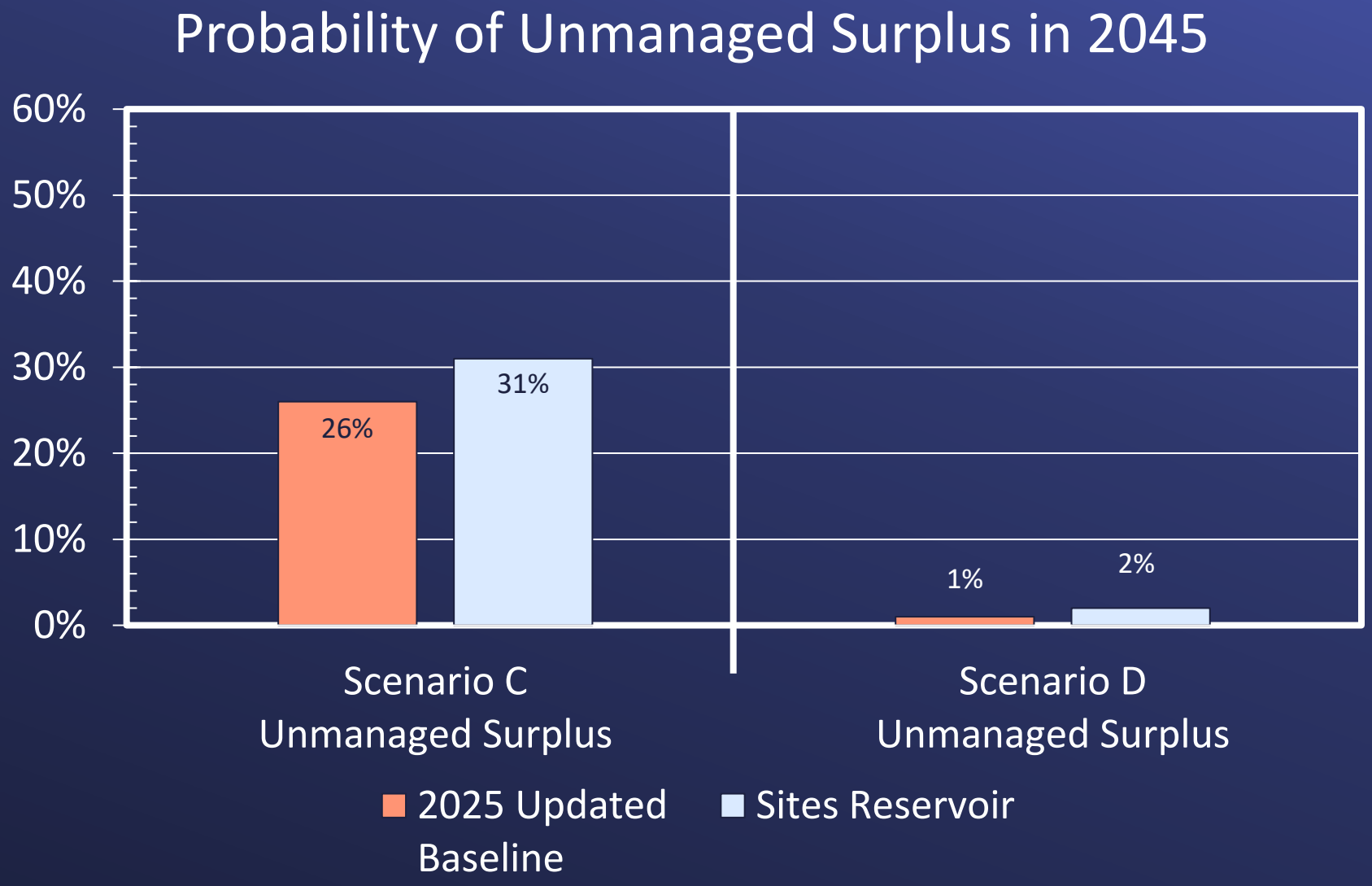
Map for illustrative purposes only. Not to scale.

Reliability – Sites Reservoir



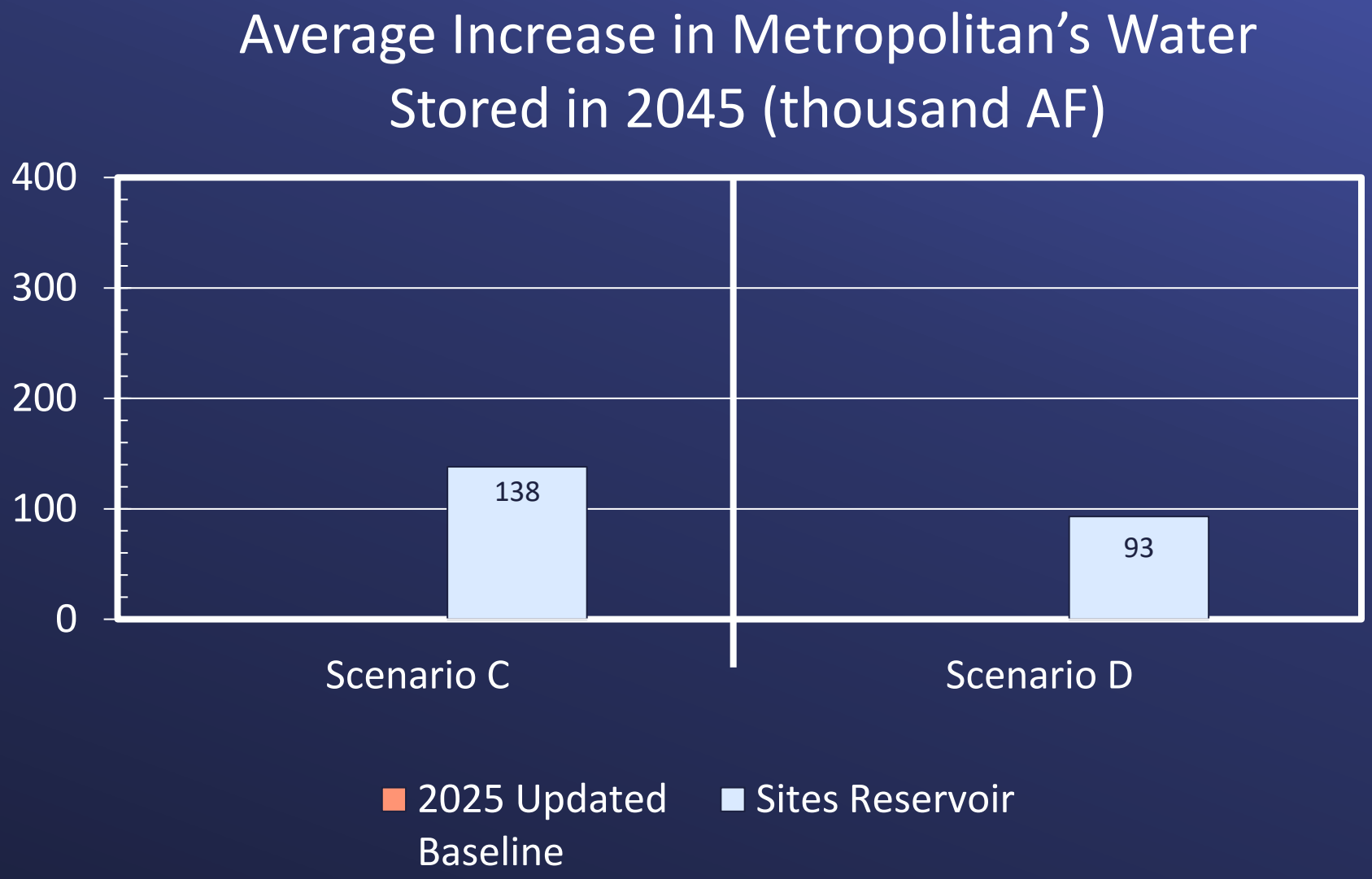
Assumes 22.1% participation in the project

Reliability – Sites Reservoir



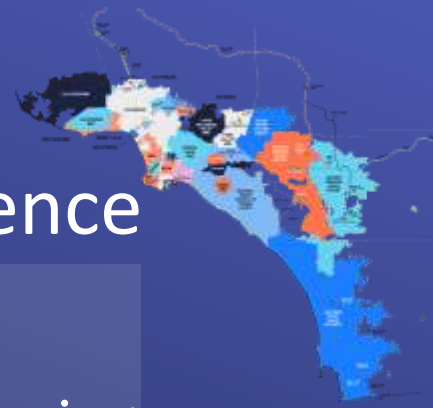
Assumes 22.1% participation in the project

Reliability – Sites Reservoir



Assumes 22.1% participation in the project

Evaluative Criteria Resilience



Sites Project Resilience

Extreme Heat
Release operations may be vulnerable to power outages resulting from extreme heat.

Wildfire
High-risk fire area, however, debris inflow unlikely and minimal due to watershed area.

Flooding
Off-stream reservoir, minimal flood-related impacts. Provides localized flood protection.

MWD System Resilience

Extreme Heat
Additional water source during heat events intensified due to climate change.

Wildfire
Additional redundancy and flexibility should other on-stream reservoirs be impacted.

Seismic
Reliant on existing Delta facilities and CA Aqueduct that can be impacted by seismic events or subsidence.

Sites -- Financial Sustainability and Affordability

Item	Sites
Capital Construction Cost[a]	$1.7B
Annual Capital Financing Cost[b]	$100.9M
Annual O&M Cost[c]	$11.9M
Annual R&R Cost	$2.9M
Average Annual Yield[d]	32 TAF
Year of Completion	2033

[a] Capital costs allocated according to the proportional share of Amendment 3 Storage Allocations among participants: 22.1% of base facilities and 26.9% of downstream facilities.
[b] Assumes 100% debt financed for this analysis at 4% rate/30-year term.
[c] O&M costs net of assumed power generation credits of $24 per AF released from Sites and inclusive of State Water Project variable power costs (~$9 M).
[d] Average annual yield net of delta carriage losses to Metropolitan's service area.

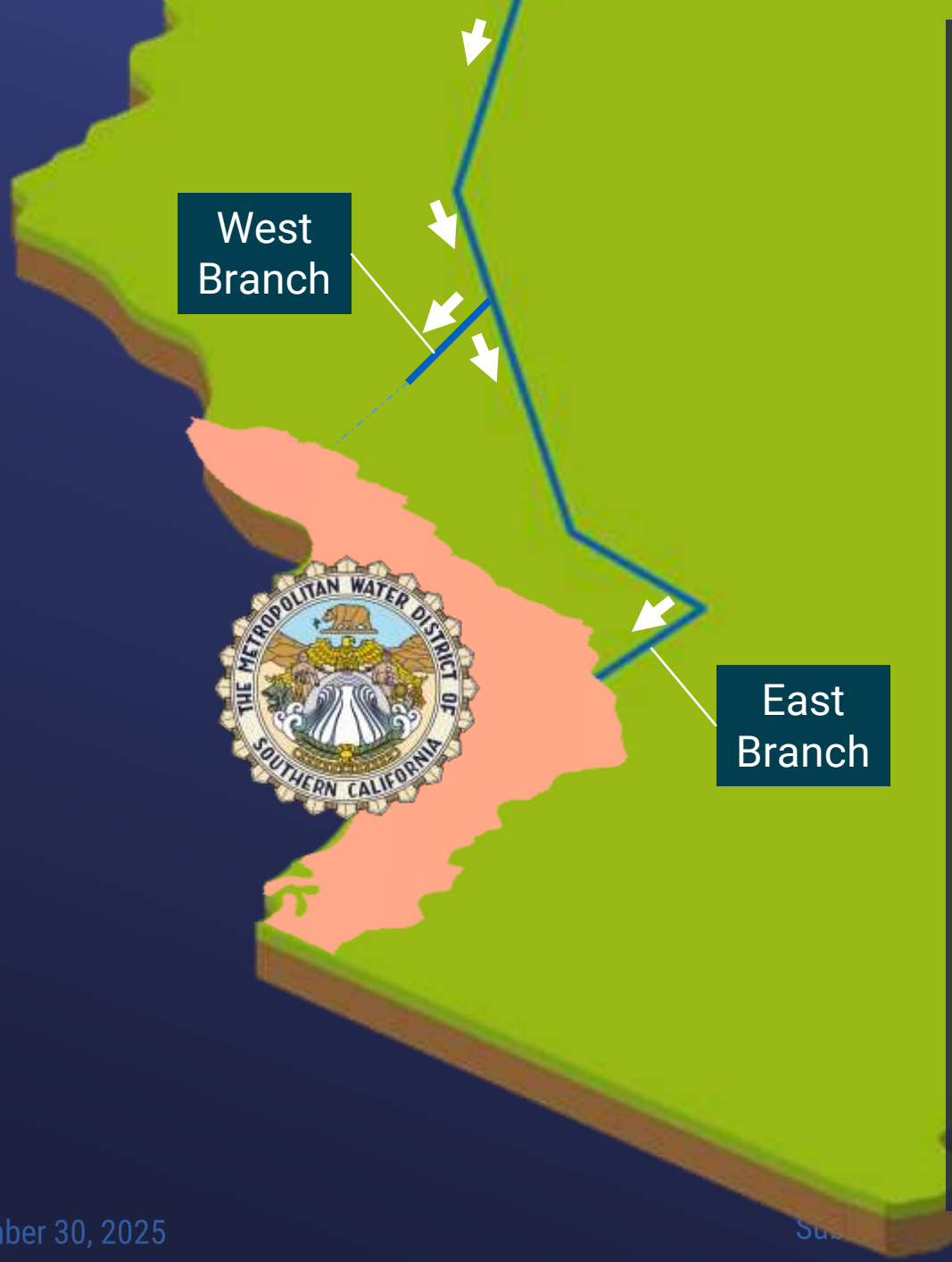
Sites -- Financial Sustainability and Affordability

Item	Sites
Overall Melded Cost Increase[a]	7%
Ave. Annual Cost Increase Over Construction Period[b]	1%/yr
Point-in-Time Unit Cost[c]	$3,500/AF
Lifecycle Unit Cost[d]	$1,000/AF

[a] 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.
[b] Based on Metropolitan's 2025/26 Revenue Requirement of $1,693M, over the period from 2026-2033.
[c] All costs are shown in 2025 dollars and include planning, design, construction, and financing costs.
[d] O&M costs net of assumed power generation credits of $24 per AF released from Sites and inclusive of State Water Project variable power costs ($287/AF).

Evaluative Criteria
Adaptability & Flexibility

Map for illustrative purposes only. Not to scale.



Evaluative Criteria
Adaptability & Flexibility

- Utilizes existing regional and local infrastructure
- Supplies can serve entirety of Metropolitan service area, including State Water Project Dependent areas
- Minor operational complexity for MWD staff
- No expected phasing of the project. However, MWD may adjust and flexibly manage participation
- Implementation risk dependent on water rights hearing and other permitting processes.

Map for illustrative purposes only. Not to scale.

Evaluative Criteria Equity (Sites)

Disadvantaged Communities[1]

30% of the Metropolitan service area served by Sites is considered disadvantaged.

0% of the Sites construction area is considered disadvantaged.

Community Benefits

Local community working group developed policy recommendations that included:

- Local workforce development
- Enhanced long-term public services
- Improved local infrastructure

Statewide Support

170+ local govts, water districts, State and Fed. legislators, chambers of commerce, and business, agricultural, and trade organizations have written letters of support

Project opposition remains from some environmental groups and tribes

[1]According to CalEPA California Communities Environmental Health Screening Tool

Evaluative Criteria Environmental Co-Benefits (Sites)

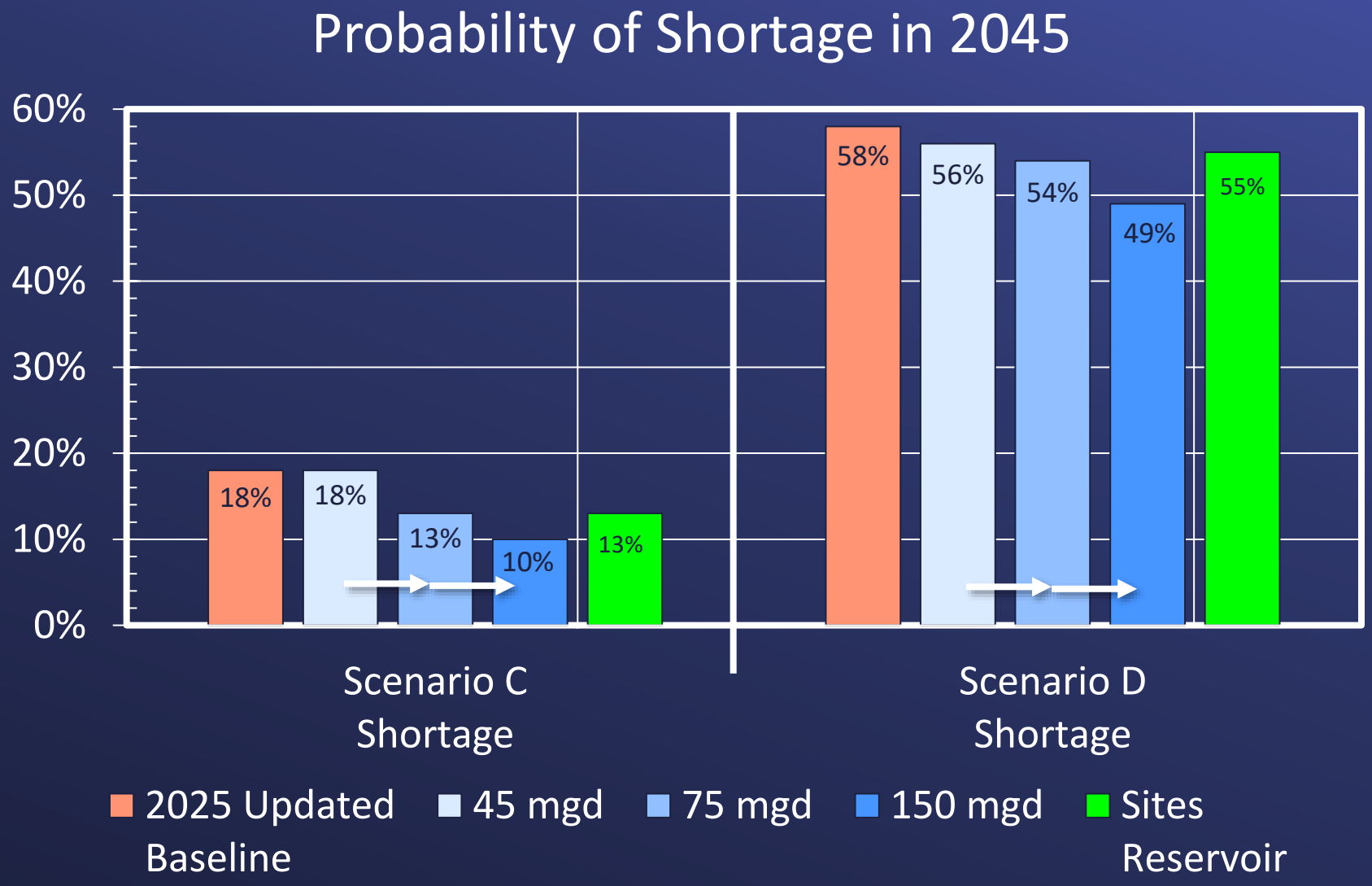
Proposition 1 Funded Benefits

The Sites Reservoir Project currently dedicates 244 TAF of storage for the State's Proposition 1 WSIP ecosystem benefits.

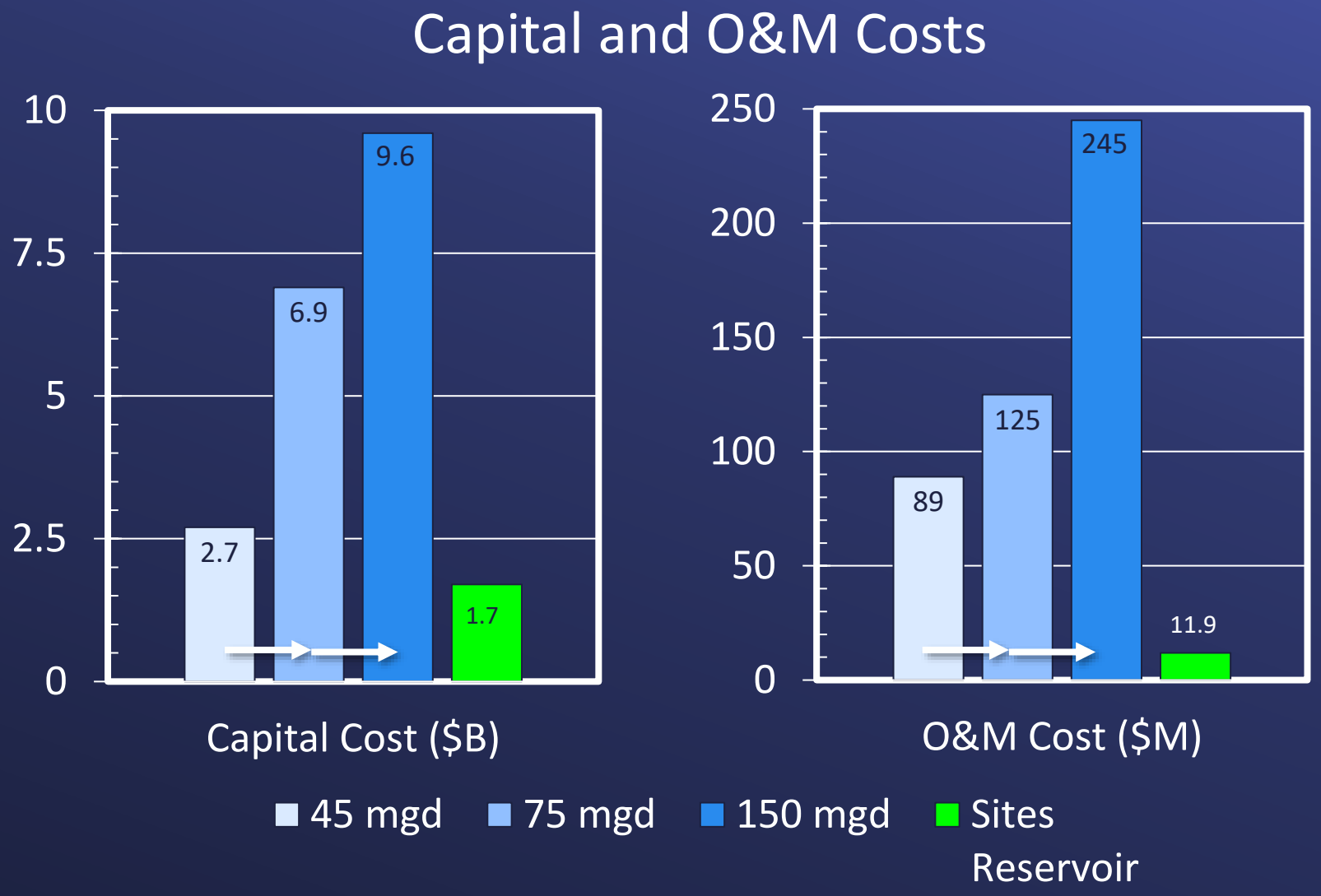
- Deliveries to wildlife refuges from Sites Reservoir are modeled to average 47 TAF in dry years.
- Intended to improve wetland habitat and provide benefits to species utilizing these habitats.

Sacramento National Wildlife Refuge
Photo Credit: Mike Peters/USFWS

Reliability – Pure Water Southern California and Sites



Cost – Pure Water Southern California and Sites



Evaluative Criteria for Preliminary Ratings

- Exceptional
- Significant
- Moderate
- Limited
- Very Limited
- N/A

Evaluative Criteria	Pure Water (45 mgd)	Pure Water (75 mgd)	Pure Water (150 mgd)	Sites
Reliability	Moderate	Significant	Significant	Significant
Resilience	Significant	Significant	Significant	Moderate
Financial Sustainability & Affordability	Very High Cost	Very High Cost	Very High Cost	Low Cost
Adaptability & Flexibility	Moderate	Moderate	Moderate	Significant
Equity	Significant	Significant	Significant	Significant
Environmental Co-benefits	Limited	Limited	Moderate	Limited

Results as of Sept. 24 and subject to change

Next Steps

- Receive feedback
- Complete final assessments for Pure Water and Sites
- Prepare additional assessments prior to the Pure Water decision
  - Additional Conservation
  - Delta Conveyance
  - Portfolios of these and other projects


THE METROPOLITAN WATER DISTRICT OF
SOUTHERN CALIFORNIA
1928