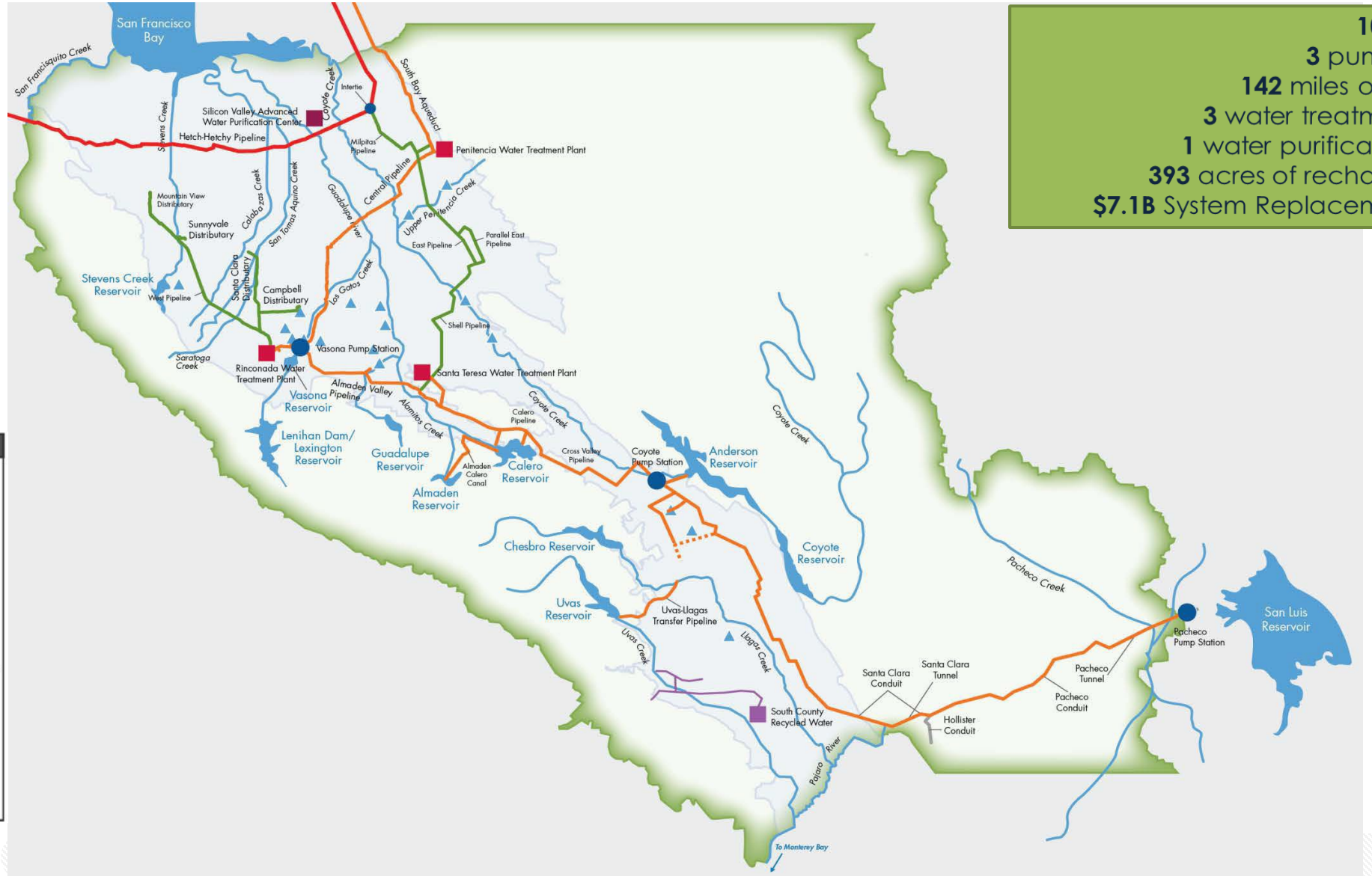
Water Supply Master Plan 2050

Board of Directors Meeting, September 9, 2025

Valley Water's Water Supply System



10 reservoirs
3 pump stations
142 miles of pipelines
3 water treatment plants
1 water purification center
393 acres of recharge ponds
$7.1B System Replacement Value

Legend

- Lakes, reservoirs, rivers, creeks, & bays
- Raw water pipeline
- Drinking water pipeline
- Pump Plants
  1. Vasona
  2. Coyote
  3. Pacheco
- Drinking Water Treatment Plants
  A. Rinconada
  B. Santa Teresa
  C. Penitencia
- Silicon Valley Advanced Water Purification Center
- Anderson Hydroelectric Facility
- Local wastewater treatment plant and recycled water provider
  a. Palo Alto
  b. Sunnyvale
  c. San Jose-Santa Clara
  d. South County
- Recharge Ponds

Valley Water

Needs and Purpose of WSMP

- Guiding document for long-term water supply investments
- Address existing and emerging challenges and identify strategies to maintain the reliable water supply system
- Adapt to changing conditions

WSMP Identified Strategies

Lower Cost ($4.6 → $3.9 Billion)

- Pure Water Silicon Valley
- Delta Conveyance Project
- B.F. Sisk Dam Raise
- Groundwater Bank (250,000 AF)
- South County Recharge

Local Control ($6.7 → $6.1 Billion)

- Pure Water Silicon Valley
- Palo Alto Potable Reuse
- Pacheco (No Partners)
- Groundwater Bank (150,000 AF)
- South County Recharge

Diversified ($5.9 → $5.2 Billion)

- Pure Water Silicon Valley
- Delta Conveyance Project
- Pacheco (with Partners)
- B.F. Sisk Dam Raise
- Groundwater Bank (350,000 AF)
- South County Recharge

Valley Water

Total cost represents Present Value of lifecycle cost in 2025 dollars

Additional WSMP Portfolios

	Portfolios				
Project	Lower Cost	Local Control		Diversified	
Palo Alto Potable Reuse			X	X	
Pure Water Silicon Valley	X	X	X	X	X
Local Seawater Desalination		X			
Refinery Recycled Water Exchange	X				
Delta Conveyance Project					X
Sites Reservoir					X
B.F. Sisk Dam Raise				X	X
Groundwater Banking (Thousand Acre-Feet)	350	150	350	250	250
South County Recharge Projects	X	X	X	X	X
Portfolio Cost ($Billion)	**3.2**	**4.9**	**4.5**	**4.9**	**4.1**

Adaptive Management Roadmap

NOW

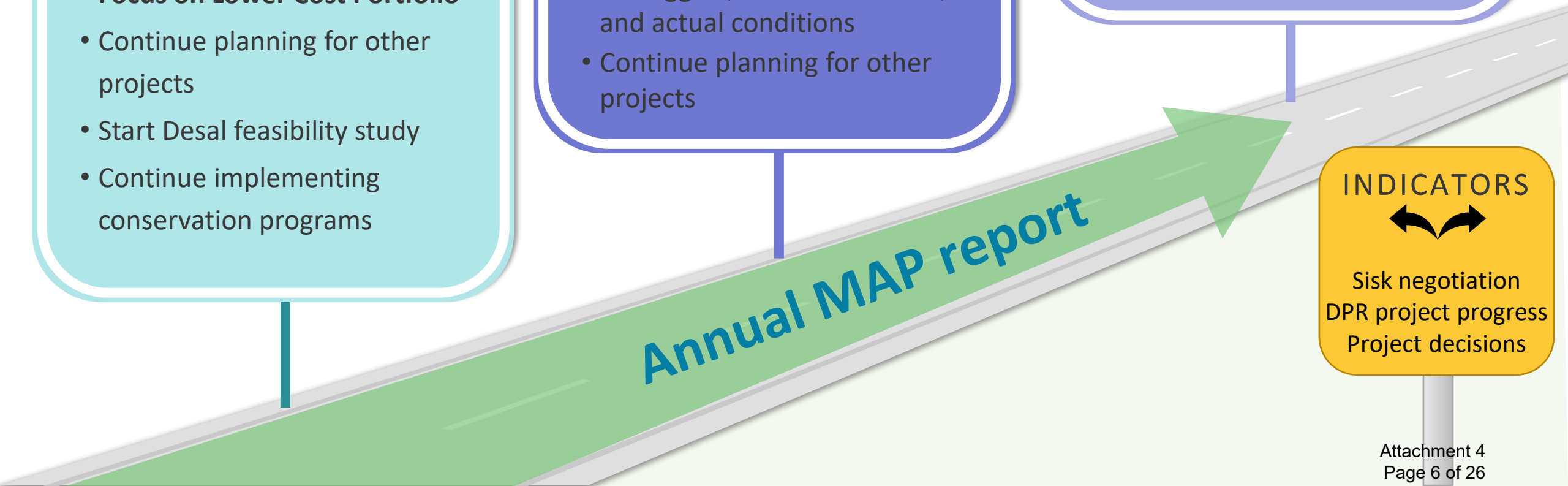
- **Focus on Lower Cost Portfolio**
- Continue planning for other projects
- Start Desal feasibility study
- Continue implementing conservation programs

NEAR-TERM (2-3 YEARS)

- Assess progress on project planning and implementation
- Make project decisions based on triggers, new information, and actual conditions
- Continue planning for other projects

MID-TERM (5 YEARS)

- Assess progress on project implementation
- Update demand projections and water supply outlook
- Update WSMP



INDICATORS

Sisk negotiation
DPR project progress
Project decisions

Response to Feedback and Comments

- June 10th Board Meeting
- Committee meetings
  - Recycled Water Committee
  - Agricultural Water Advisory Committee
  - Environmental and Water Resources Committee
- Public comments (45 days public review)
  - City of Sunnyvale
  - Doug Peterson
  - Infractiv LLC
  - Sierra Club
  - Tuolumne River Trust

Policy Basis for WSMP

Board Ends Policy E-2 – Water Supply Services

Valley Water provides a reliable, safe, and affordable water supply for current and future generations in all communities served.	
2.1	Meet 100% of annual water demand during non-drought years and at least 80% of demand in drought years.
2.2	Protect and sustain the county's existing, diverse water supplies.
2.3	Protect and maintain existing water infrastructure.
2.4	Increase regional self-reliance through water conservation and reuse.
2.5	Manage water resources using an integrated, science-based approach.
2.6	Promote access to equitable and affordable water supplies.

Scope of WSMP

- Assess future needs
- Evaluate project and program options
- Identify investment strategy among available options

Relations to Other Plans

- Urban Water Management Plan (UWMP)
  - State-mandated long-range plan
  - Consistent with WSMP analysis and recommendations
- Water Shortage Contingency Plan (WSCP)
  - Establishes drought response actions and procedures
  - Defines triggers for water use reduction call during droughts, which are incorporated in the WSMP model analysis
- Both plans need to be updated by July 1, 2026

Bay Delta Water Quality Control Plan

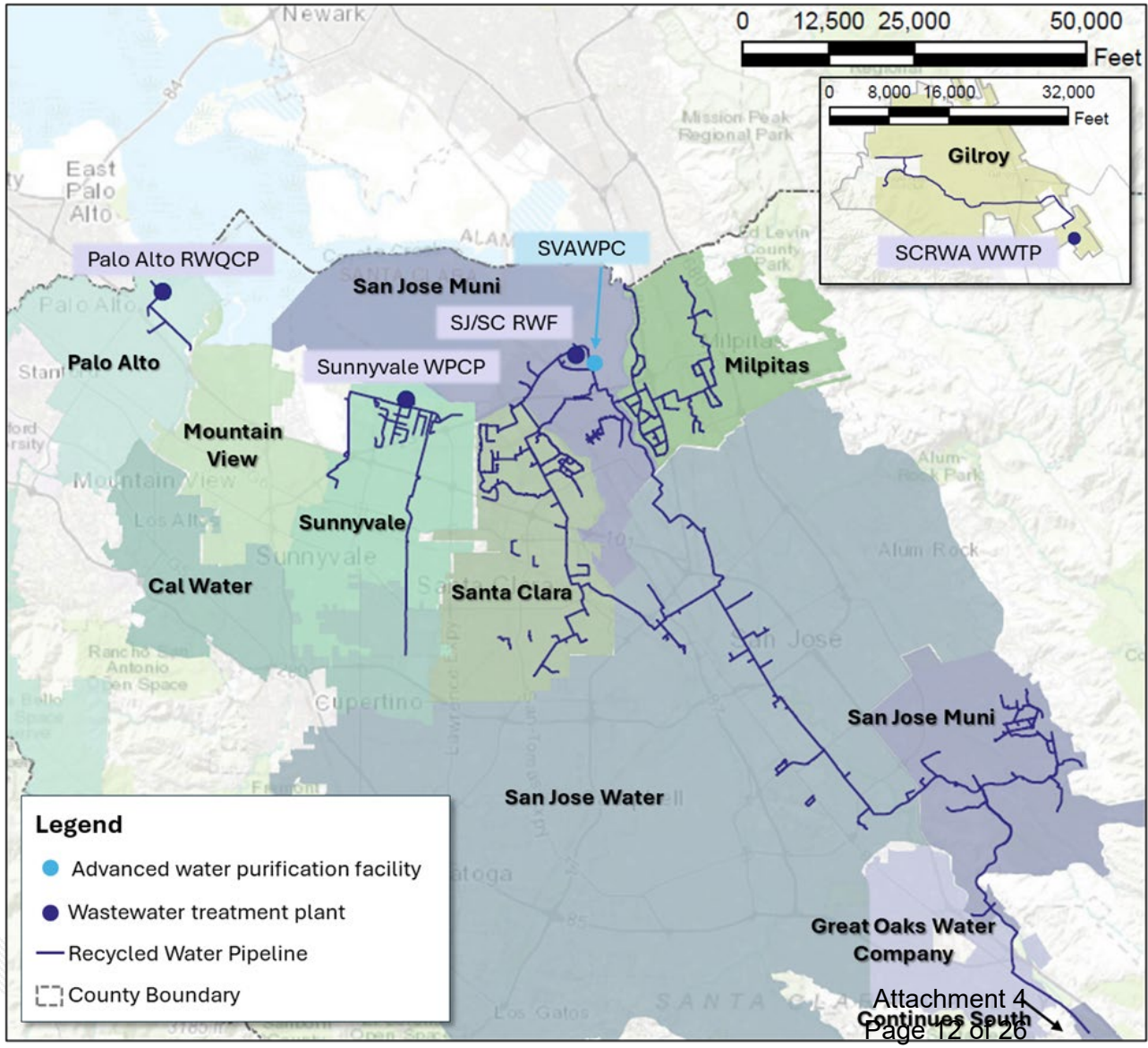
- Potential impacts on water deliveries to Valley Water's retailers by San Francisco Public Utilities Commission
- Potential impacts on Valley Water's imported water supplies
- Exact impacts not sufficiently understood yet as negotiations ongoing

Source: State Water Resources Control Board

Non-potable Recycled Water Expansion

Discussed at July Recycled Water Committee meeting

- Countywide Water Reuse Master Plan
- Current non-potable reuse (NPR) system and Valley Water support
- WSMP NPR expansion assumption
- Regulatory requirements and water quality
- Benefits and challenges of NPR



Valley Water

Cost of Major Supply Projects

All costs are in 2025 dollars

Project	Average Annual Supply (AF)	Capital Cost (Million)	Annual O&M (Million)	Present Value (PV) Lifecycle Cost* (Million)	Lifecycle Cost PV/Yield PV ($/AF)	Annualized Unit Cost ($/AF)
Palo Alto Potable Reuse	8,000	$800	$13.2	$1,740	$11,620	$10,300
Pure Water Silicon Valley	24,000	$1,730	$26.7	$2,360	$5,910	$4,650
Local Seawater Desalination	24,000	$2,190	$31.1	$2,980	$7,120	$5,880
Refinery Recycled Water Exchange	8,000	$260	$9.5	$470	$2,900	$2,760
Delta Conveyance Project	14,000	$670	$1.8	$780	$2,800	$1,950
Sites Reservoir	5,000	$210	$1.8	$230	$2,000	$1,800

*Lifecycle of 50 years for DCP and Sites, and 30 years for all other projects

Cost of Storage Projects

All costs are in 2025 dollars

Project	Storage (AF)	Capital Cost (Million)	Annual O&M (Million)	PV Lifecycle Cost (Million)	Lifecycle Cost PV/Storage Capacity ($/AF)
B.F. Sisk Dam Raise	60,000	$450	$1.9	$540	$8,960
Pacheco Reservoir Expansion[1]	140,000	$2,208	$2.6	$1,820	$12,970
Groundwater Banking	350,000	$290	$2.9	$380	$1,100

[1]Uses current CIP costs; note that the cost estimate was recently increased from $2.208B to $2.733B

Lifecycle of 50 years for storage projects

Valley Water

Project Cost Line Items

All costs are in 2025 dollars

Project	Capital Cost (Million)	Construction Cost (Million)	Planning & Design Costs (Million)	Additional Costs[1] (Million)	Annual O&M (Million)
Palo Alto Potable Reuse	$800	$580	$220		$14.4[2]
Pure Water Silicon Valley	$1,710	$1,300	$100	$310	$26.7
Delta Conveyance Project	$670	$500	$110	$54	$1.8
Sites Reservoir[3]	$210				$1.8
Pacheco Reservoir Expansion[4]	$2,208	$2,008	$145	$55	$2.6
B.F. Sisk Dam Raise	$450	$420	$30		$1.9
Groundwater Banking[5]	$290				$2.9

[1] Includes costs related to land acquisition and environmental mitigation

[2] Includes cost of wastewater

[3] Valley Water capital cost based on $6.2 Billion Total Project Cost, project cost breakdown not available

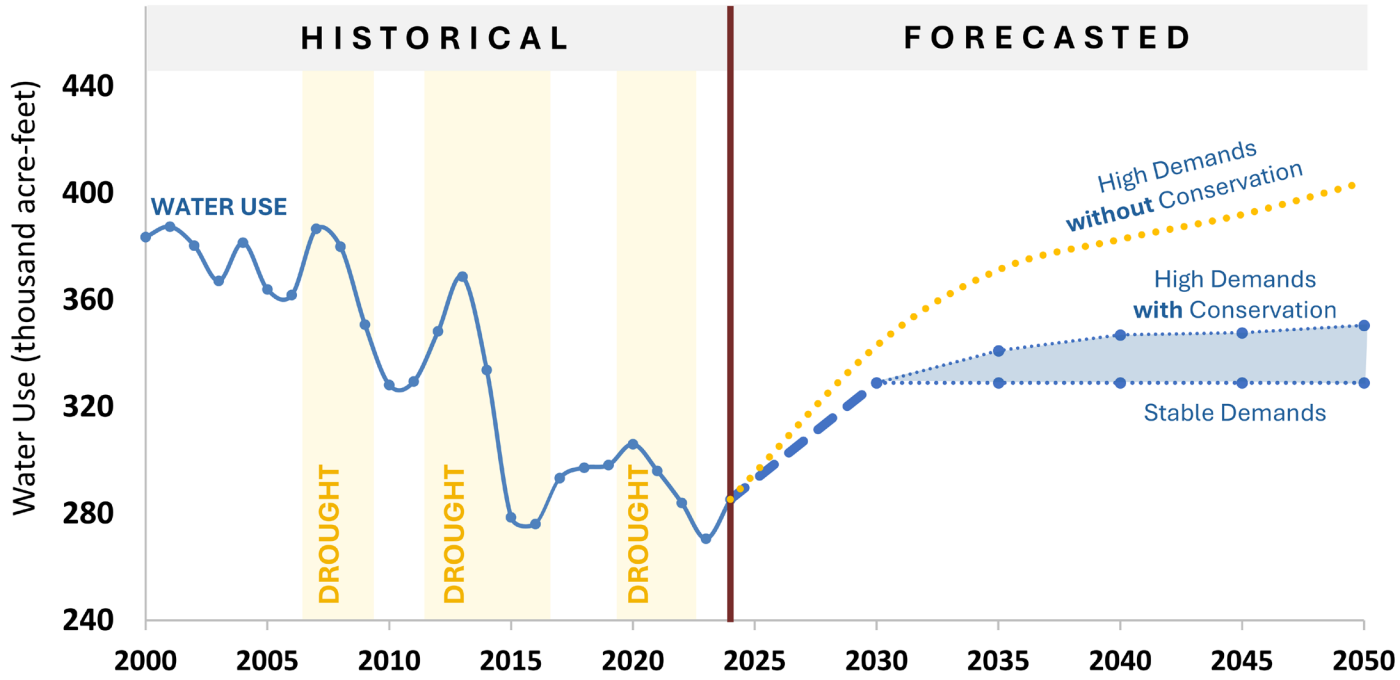
[4] Uses current CIP costs; note that the cost estimate was recently increased from $2.208B to $2.733B

[5] Based on costs of High Desert Water Bank Project, project cost breakdown not available

Questions and Discussion from Board, Committees, and Public

Demand Projections

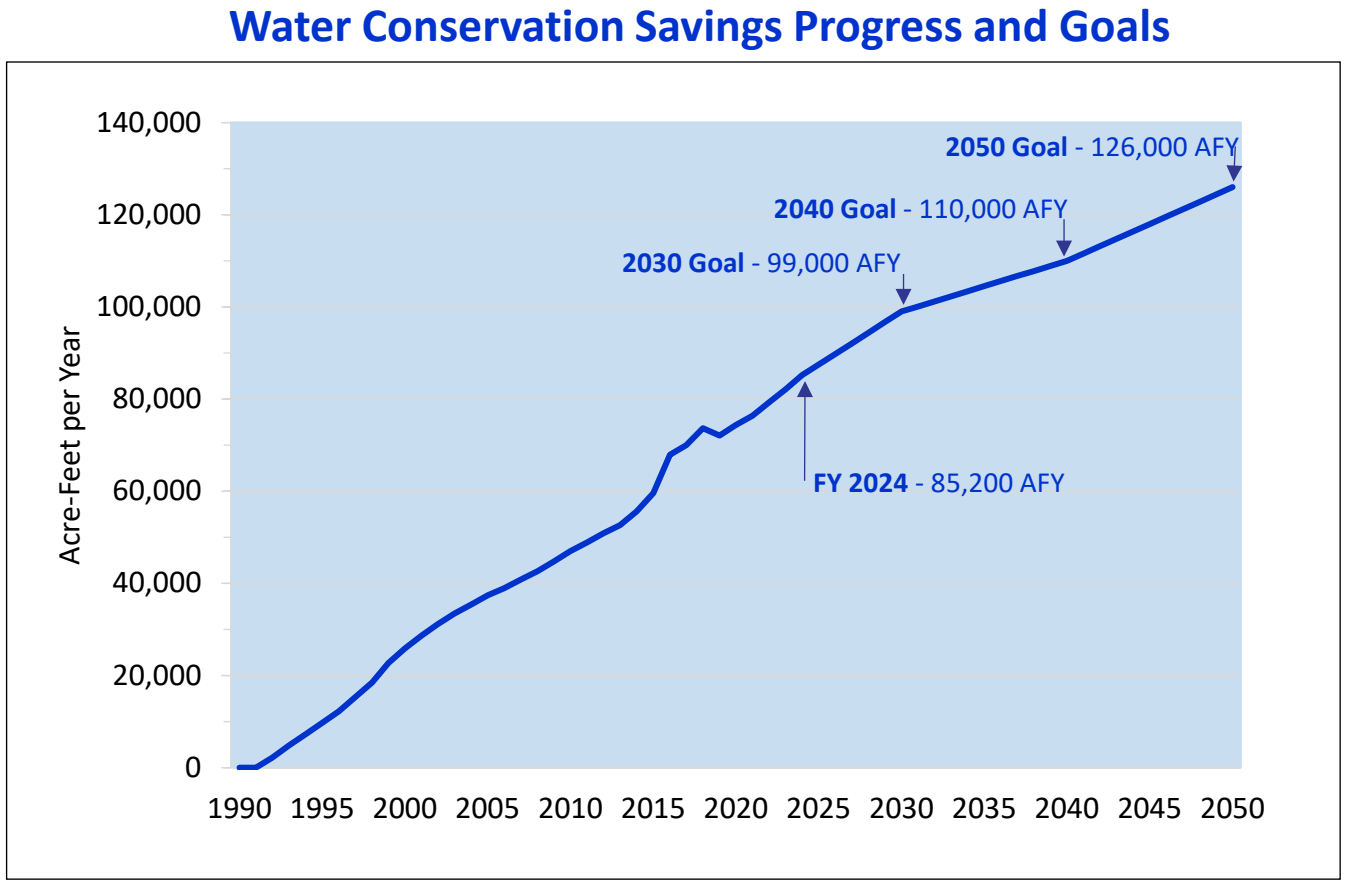
- Both demands well within historical water use
- Scientific approach benchmarked with other agencies
- Planning for low end and adapting in future
- Future shortage driven more by reduction in imported supply



Valley Water

Conservation Goals

- Ambitious but achievable
- Annual tracking
- Adaptive management addressing uncertainty

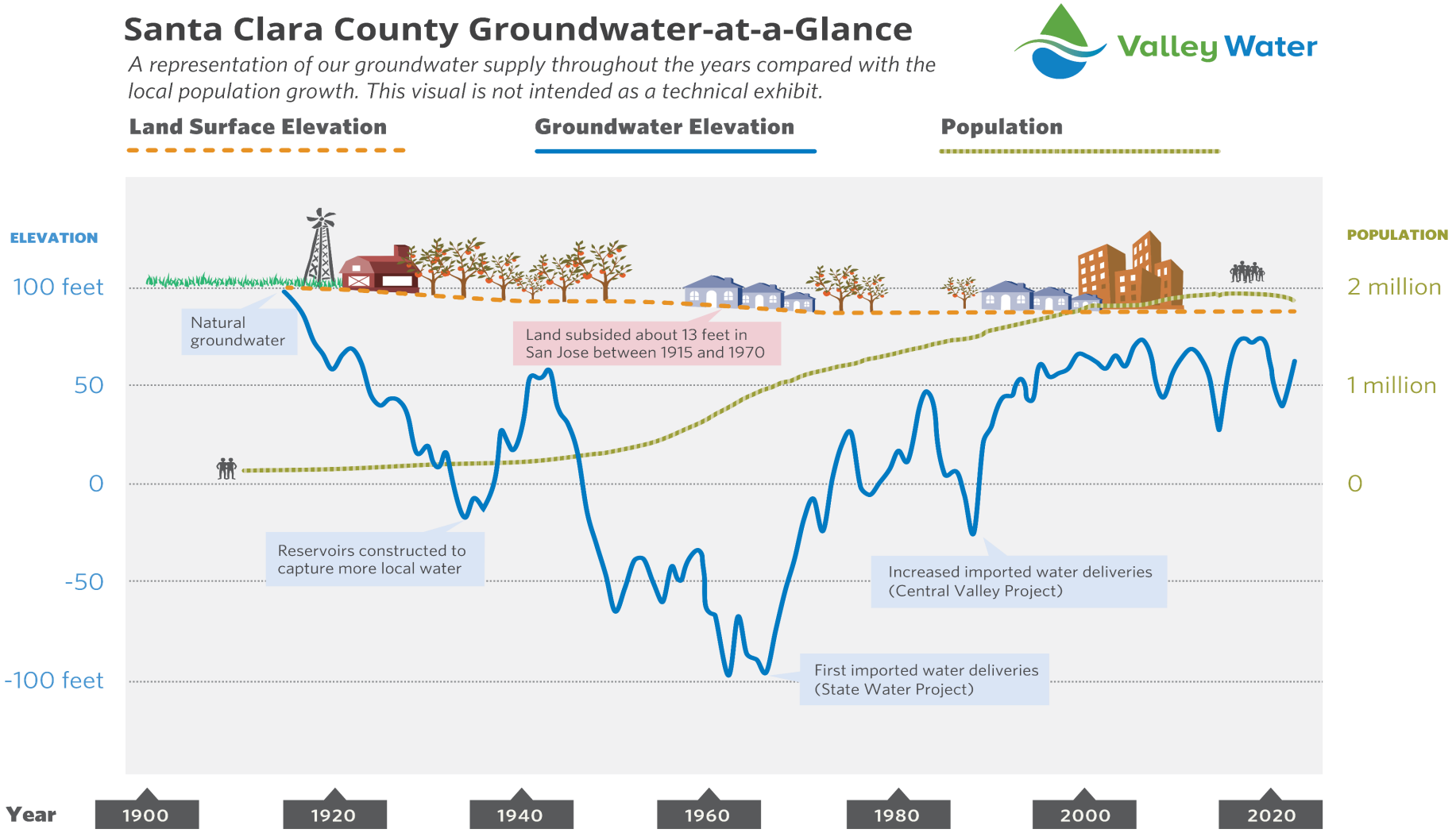


Need for Imported Water – Water Supply

How Valley Water Halted Subsidence

Santa Clara County Groundwater-at-a-Glance

A representation of our groundwater supply throughout the years compared with the local population growth. This visual is not intended as a technical exhibit.



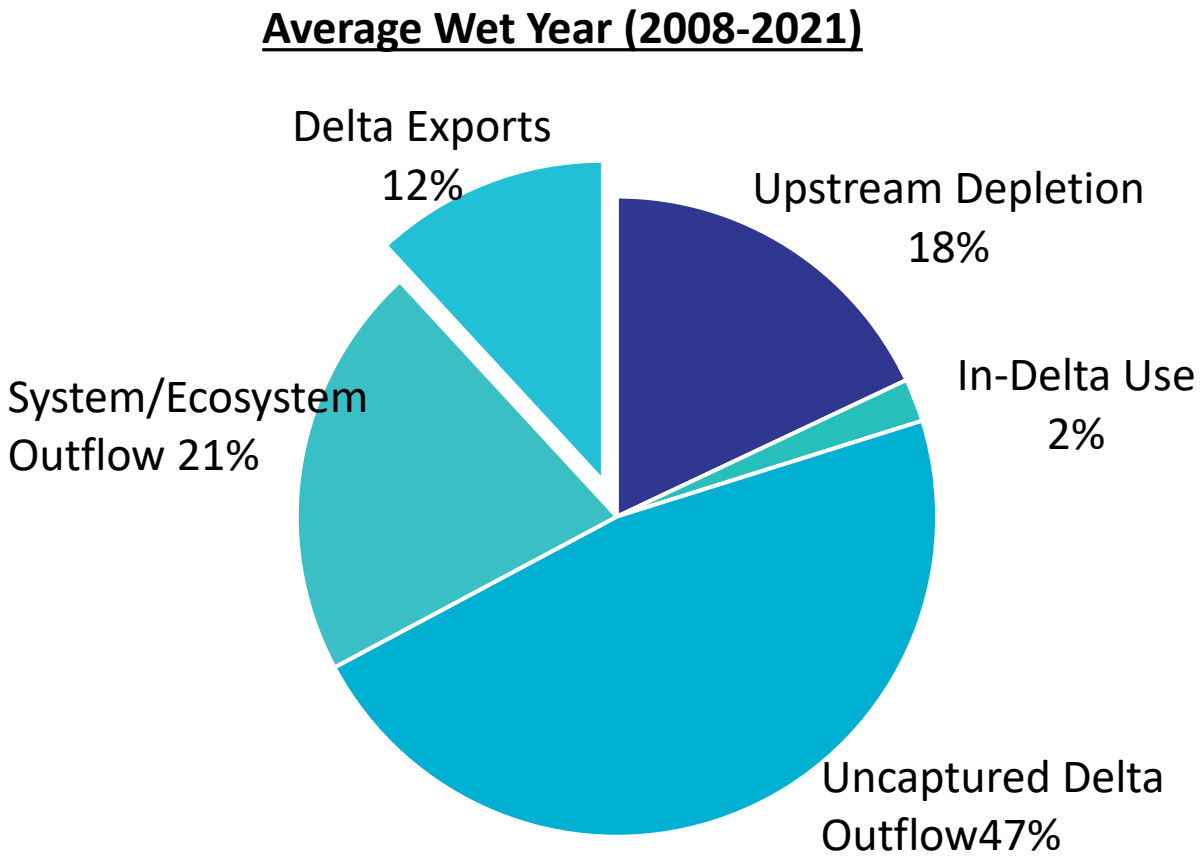
Last updated January 5, 2023

Cost of Imported Water

- Among most affordable options (baseline cost $450/AF)
- Cost paid per Valley Water Contracts and built in baseline operation cost
- Future investment helps better utilize contractual water

Delta Water Availability and Uses

- Valley Water usage: less than 1% of available Delta water (150 TAF/year)
- UWMP requirement - reduced reliance on Delta



Storage Needs

- Store excess water in wet years to be used in dry years
- Compensate for supply variability associated with CA weather pattern and enable better utilization of supply projects
- Depends on what other projects are in the mix and specific operations of new groundwater banks
- Need to either maintain existing level of storage or add more

Needs for Investment

- Potential impacts of lower level of service
  - Quality of life
  - Economic impact
  - Irrigation for parks and trees
  - Agricultural production
  - Subsidence
- Billions in economic losses

Plan Organization

Executive Summary

1 – Introduction

2 – Water Supply System

3 – Water Supply Challenges

4 – Water Supply Needs Assessment

5 – Project Options

6 – Water Supply Strategies

7 – Adaptive Management

8 – Stakeholder Outreach

LIST OF APPENDICES

A - Board Ends Policy E-2

B - Potable Reuse Goal

C - 2050 Conservation Goal

D - Demand Model Development

E - Water Supply Modeling

F - Water Shortage Impacts

G - Cost Analysis Method and Assumptions

H - Additional Portfolios

Next Steps

- Plan finalization
- Plan adoption

Feedback Requested

- Proposed roadmap and recommendation
  - Focus on Lower Cost portfolio
  - Continue planning for other projects
- Any further revisions to the draft plan