



MAP 2022 - Water Supply Master Plan Benchmarking Study and Project Evaluation Framework

Presented by: **Jing Wu**, Senior Water Resources Specialist
November 22, 2022

Benchmarking Study

- Purpose – learn good practices from peer agencies
- Approach
 - Select peer agencies
 - Review peer agencies' water supply planning documents
 - Conduct interviews with five peer agencies
 - Prepare TM to summarize findings and recommendations

Agencies Selected



Agency	State (Region)	Organizational Structure	Population Served (millions)	Policy-level Decision Makers
Valley Water	California (SF Bay Area)	Wholesaler	2	7
SFPUC	California (SF Bay Area)	Wholesaler and Retailer	2.7	5
MWD	California (SoCal)	Wholesaler	19	38
SDCWA	California (SoCal)	Wholesaler	3.3	36
TRWD	Texas	Wholesaler	2.6	5
Tucson Water	Arizona	Retailer	0.8	8
PWD	Pennsylvania	Wholesaler and Retailer	1.6	5
SPU	Washington	Wholesaler and Retailer	1.3	7

Peer Agency Interview

- Five of seven agencies



San Francisco
Public Utilities
Commission



Metropolitan
Water District of
Southern
California



San Diego
County Water
Authority



Tarrant
Regional
Water District



Tucson Water

- Focused on process and approach not in the documents
- Relationship building

Major Findings - Overarching

- No one-size fits all, but common practices exist
- Valley Water's planning efforts and practices are in line with other agencies'
- Opportunities to enhance next WSMP update

Major Findings - Multiple Goals/Drivers

6

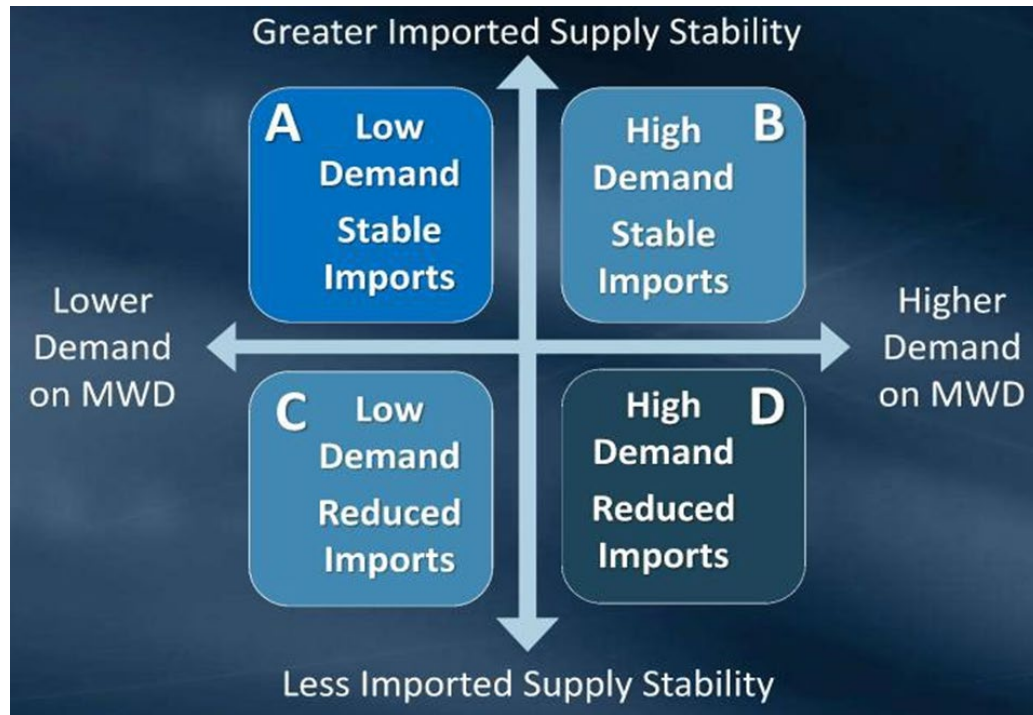
Agency	Goals and Drivers				
	Supply reliability	Diversified portfolio	Regional storage optimization	Flexibility in responding to future uncertainty	Water quality
Valley Water	•	•	•	•	
SFPUC	•	•	•	•	
MWD	•	•	•	•	
SDCWA	•	•	•	•	
TRWD	•	•	•	•	
Tucson Water	•	•	•	•	•
PWD	•				•
SPU	•				•

Major Findings - Planning Horizon and Update

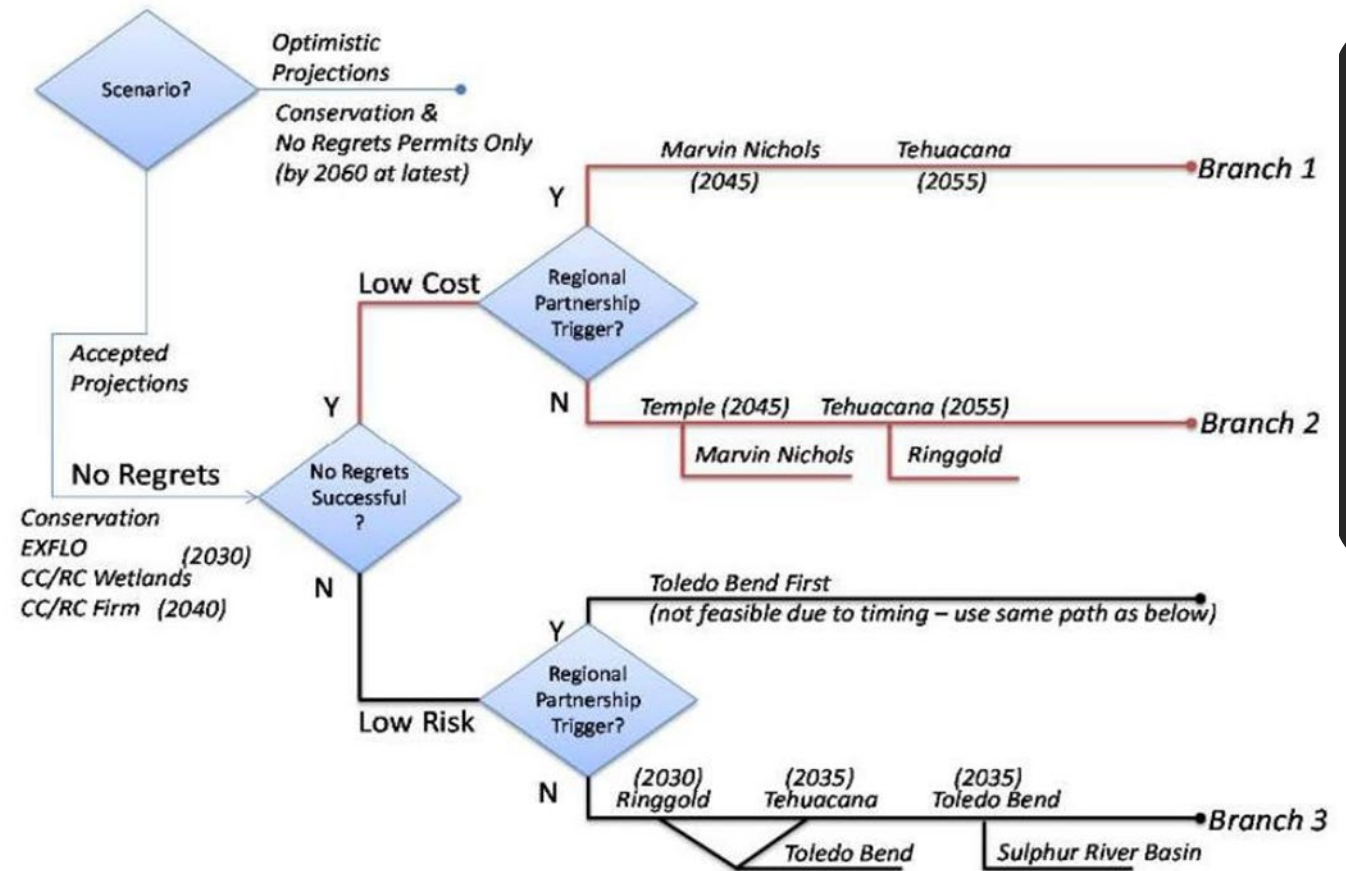
Agency	Planning Horizon (years)	Comprehensive Update Cycle (years)	Interim Update Frequency
Valley Water	20	5	Annual
SFPUC	20	5	Quarterly
MWD	25	5	Annual
SDCWA	20	5	
TRWD	50	10	
Tucson Water	50-80	20	Quadrennial (4 year)
PWD	25	10	
SPU	20	6	

Major Findings - Planning Approach

Scenario planning – alternative views of future



(Source: MWD, 2021b)

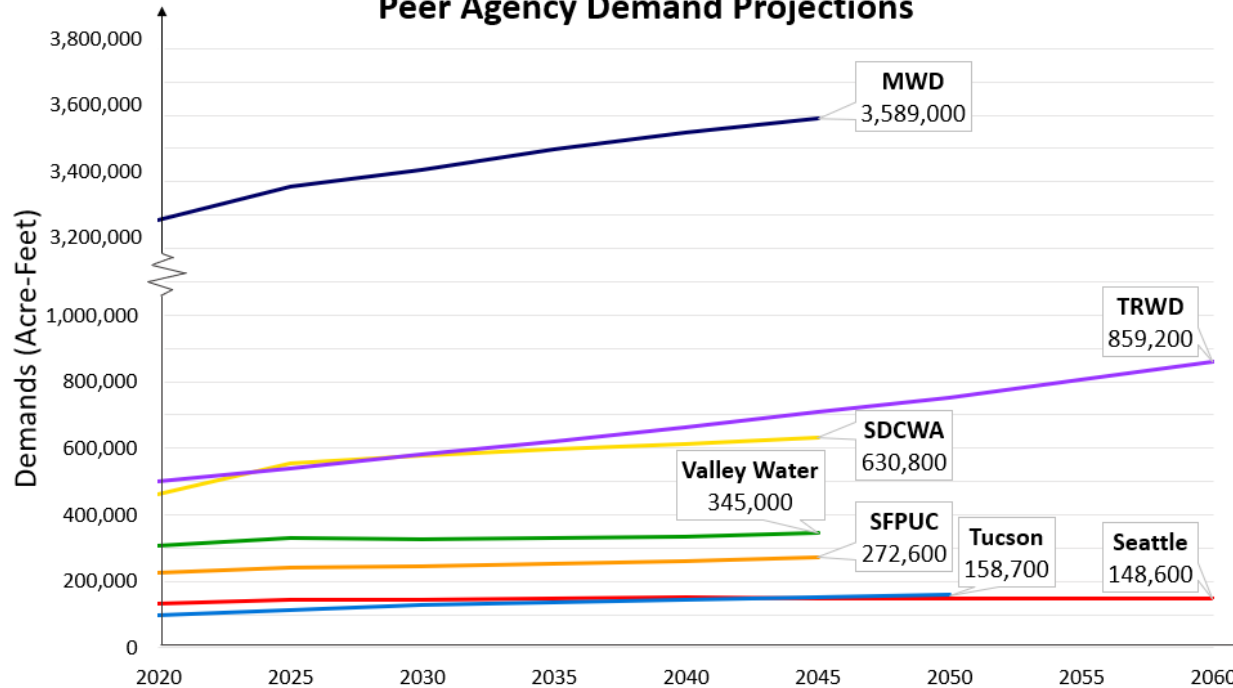


(Source: TRWD, 2014)

Major Findings - Demand Projection

9

Peer Agency Demand Projections



Agency	% Change, Historical to Existing			% Change, Existing to Future Projections		
	Years	Water use	Population	Years	Water use	Population
Valley Water	2000-2020	-20%	18%	2020-2045	13%	36%
SFPUC		-23%	15%	2020-2045	21%	34%
MWD		-16%	13%	2020-2045	9%	16%
SDCWA		-33%	14%	2020-2045	36%	16%
TRWD		25%	39%	2020-2060	114%	79%
Tucson Water		-23%	16%	2020-2050	61%	47%
PWD	Data not found					
SPU	2000-2020	-20%	22%	2020-2040	15%	14%

valleywater.org

Major Findings – Project Evaluation

10

Agency	Generalized Evaluation Criteria											
	Average Annual Supply	Supply Reliability/ Availability	Diverse Supply Portfolio	Cost	Rate Impacts	Environmental	Water Quality	Equity	Institutional Complexity	Schedule	Utilization	Power Use and Generation
Valley Water	•	•	•	•		•	•		•	•	•	
SFPUC	•	•	•	•					•	•		
MWD	•	•	•	•	•	•	•	•				
SDCWA	•	•	•	•							•	•
TRWD	•			•	•	•	•		•	•		•
Tucson Water	•	•	•			•	•	•				
PWD	•	•		•		•	•	•			•	
SPU	•	•		•		•		•				

Major Findings – Role of Master Plan

11

- Roadmap for future investment
- Master plan identified projects generally prioritized and used as the basis for comparison with any new water projects
- Project evaluations within the context of the WSMP
- Primary factor for all projects is their ability to meet dry year demands

Major Findings – Stakeholder Engagement

Agency	Internal Departments (Divisions or Units)								
	Water Resources Planning	Operations	Water Quality/Treatment	Engineering / Design	Asset Management	Environmental	Finance	Public Affairs/ Outreach	Other
Valley Water	•	•	•	•	•	•	•		
SFPUC	•	•	•			•	•		
MWD	•	•		•					
SDCWA	•	•		•					Real Estate
TRWD	•								
Tucson Water	•	•	•	•			•	•	Conservation
PWD	•		•	•					Lab Services
SPU	•	•		•	•	•	•	•	Admin

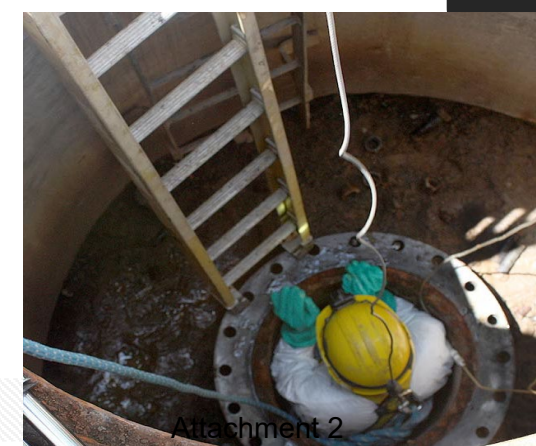
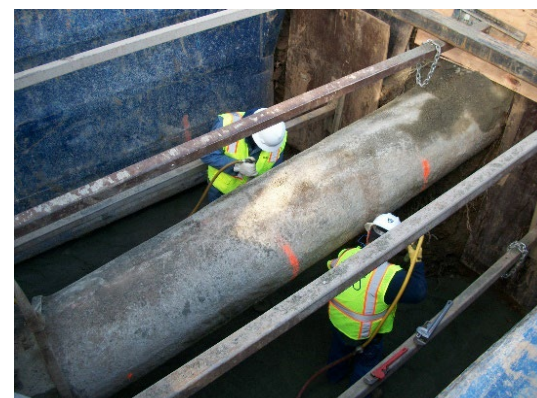
Opportunities

- Develop a workplan to guide the comprehensive update
- Continue to convene an inter-departmental work group on WSMP update
- Enhance Valley Water's planning approach
- Use a planning horizon of about 30 years
- Develop a framework for project evaluation with additional criteria if feasible

Opportunities (Cont.)

- Continue to evaluate drought resilient local supplies and diversify storage
- Increase coordination and alignment between WSMP, Capital Improvement Program (CIP), and rate setting process
- Continue to engage Board and committees to seek input
- Communicate updates publicly with regular frequency

Project Evaluation Framework Development



Purpose of Framework

- Assist decision making on major projects
- Early efforts of WSMP update
- Support rate setting process

WSMP and three Strategies

17

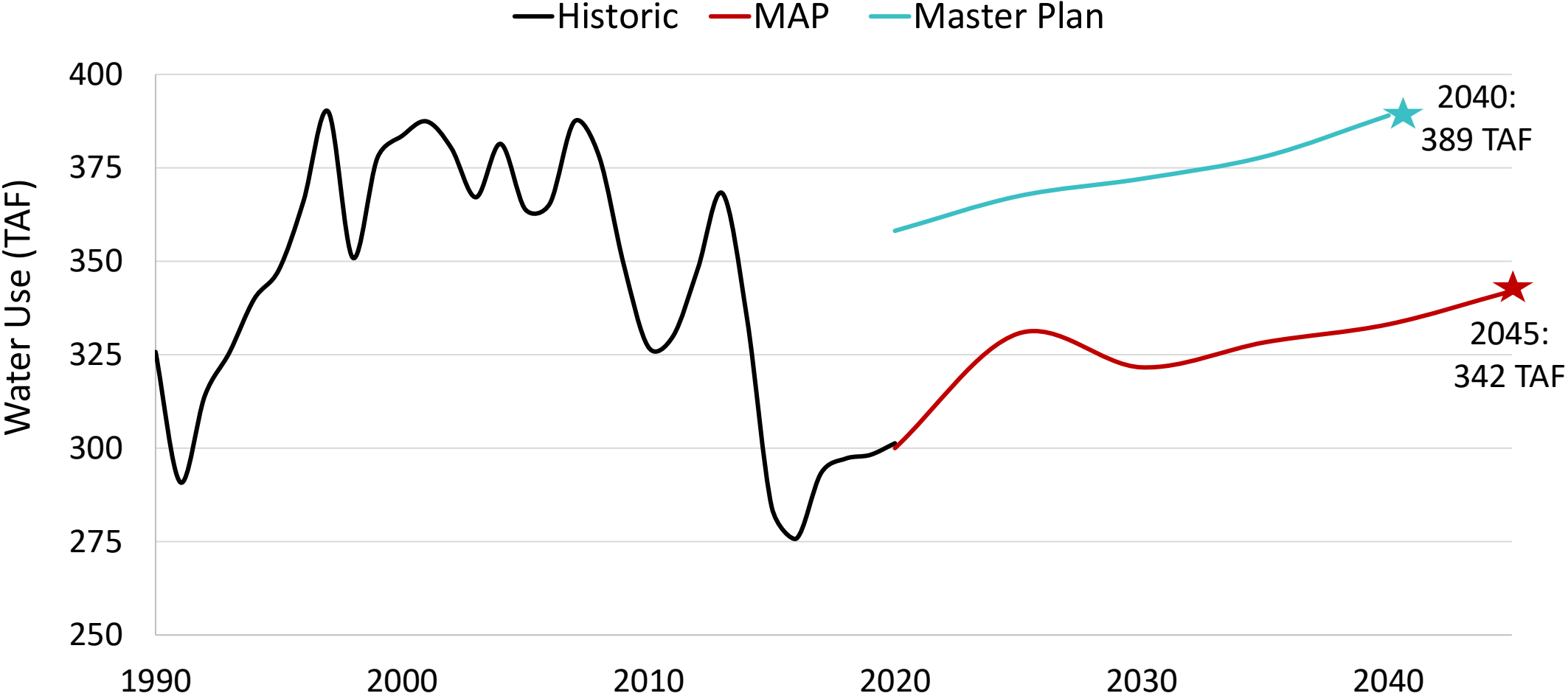


1 Secure
existing supplies
and
infrastructure

2 Expand
water conservation
and reuse

3 Optimize
the use of
existing system

MAP 2020 Demand



Water Supply Challenges

Climate change and regulations reduce water supply

- Future dry year shortage (with baseline investment)

Primary Planning Goals

- Meet dry year demand
- Diversify storage
- Minimize future rate impact

Upcoming Project Decisions

Upcoming Projects	Estimated Decision Points			
	2023	2024	2025	2026
Potable Reuse	Project commitment			
Los Vaqueros Reservoir Expansion	Project commitment			
Groundwater Banking	Funding Decision	Project commitment		
Pacheco Reservoir		Project commitment		
Sites Reservoir		Project commitment		
Delta Conveyance Project		Project commitment		

Project Types

22



Dependable
supply during
drought



Reliability/wet year
capture

Provides storage for excess
water supply that can be used
during drought years

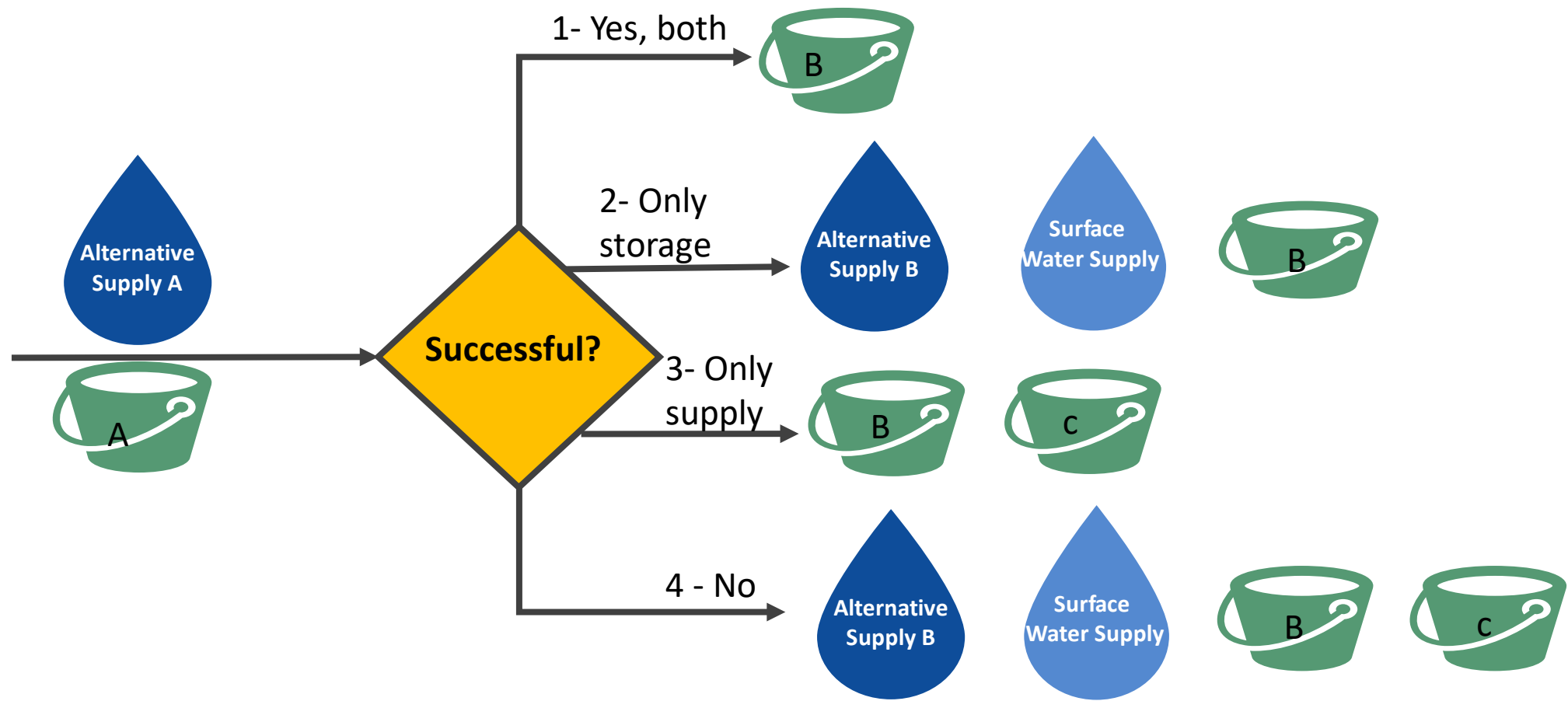


WSMP Projects By Type

Projects	Alternative Supply	Surface Water Supply	Storage
Potable Reuse	☑		
Los Vaqueros Reservoir Expansion			☑
Groundwater Bank			☑
Pacheco Reservoir			☑
Sites Reservoir		☑	☑
Delta Conveyance Project		☑	

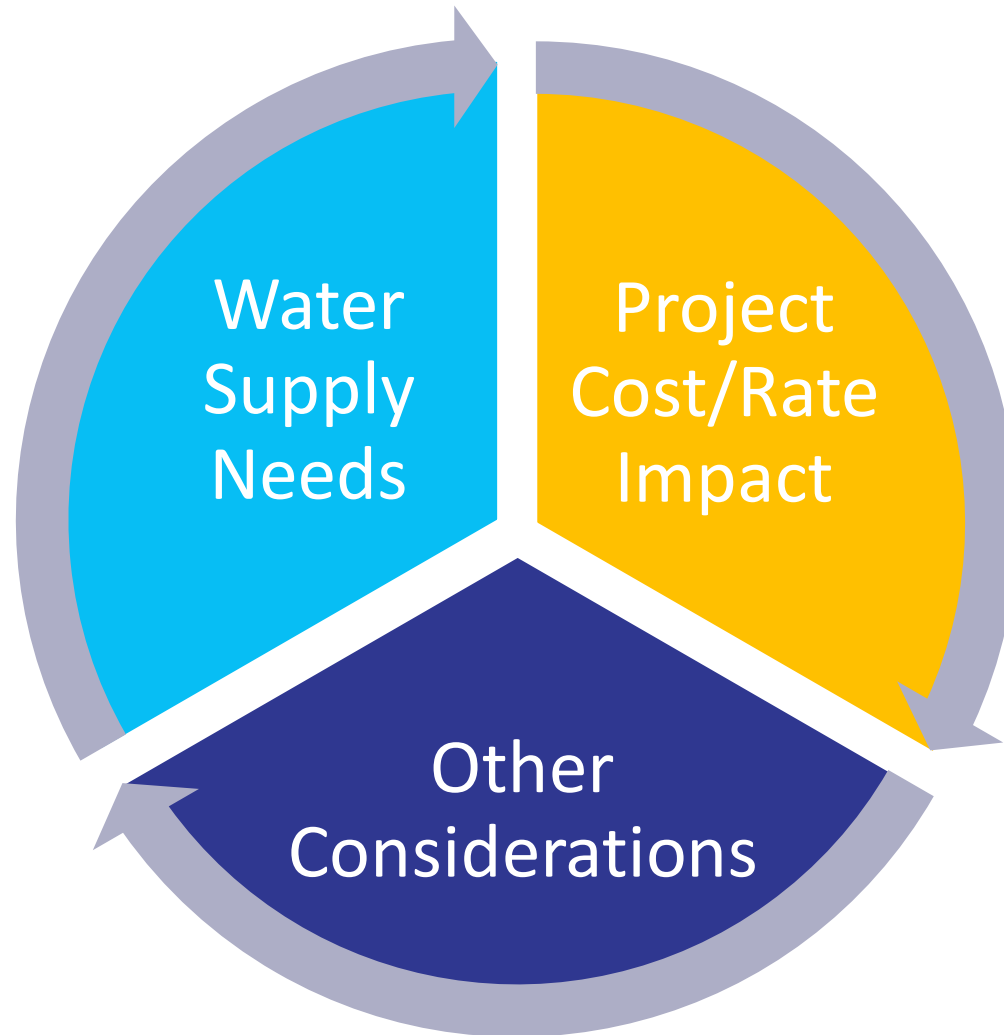
Strategy - Pair Supply with Diversified Storage

24



Iterative Evaluation Process

25



WSMP Update Schedule

2023

- Support rate setting process
- Develop a workplan to establish goals and procedures
- Refine framework
- Project/portfolio analysis and evaluation
- Stakeholder engagement

2024

- Plan development
- Stakeholder outreach
- Plan adoption