



Los Vaqueros Reservoir, Sites Reservoir, and Delta Conveyance Project MAP Evaluation

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Cindy Kao, Ph.D., P.E., Imported Water Unit Manager



**Board of Directors Meeting
November 17, 2020**

Attachment 21
Page 1 of 40

Water Supply Master Plan 2040



Secure

- Capital Improvement Program Projects
- Delta Conveyance Project

Expand

- Water Conservation
- Stormwater Capture
- Potable Reuse

Optimize

- Pacheco Reservoir Expansion
- Transfer-Bethany Pipeline
- South County Recharge

Master Plan Back-up Projects

- Bay Area Regional Desalination
- Countywide Water Reuse Master Plan (in excess of 24 MGD reuse project)
- Groundwater Banking
- Lexington Pipeline
- Local Land Fallowing
- **Los Vaqueros Reservoir**
- Montevina Water Treatment Plant
- Refinery Recycled Water Exchange
- **Sites Reservoir**
- San Pedro Ponds Recharge Improvement
- South County Water Treatment Plant
- Shallow Groundwater Reuse

Looking Ahead

- Current Board Action

Los Vaqueros Expansion (LVE)

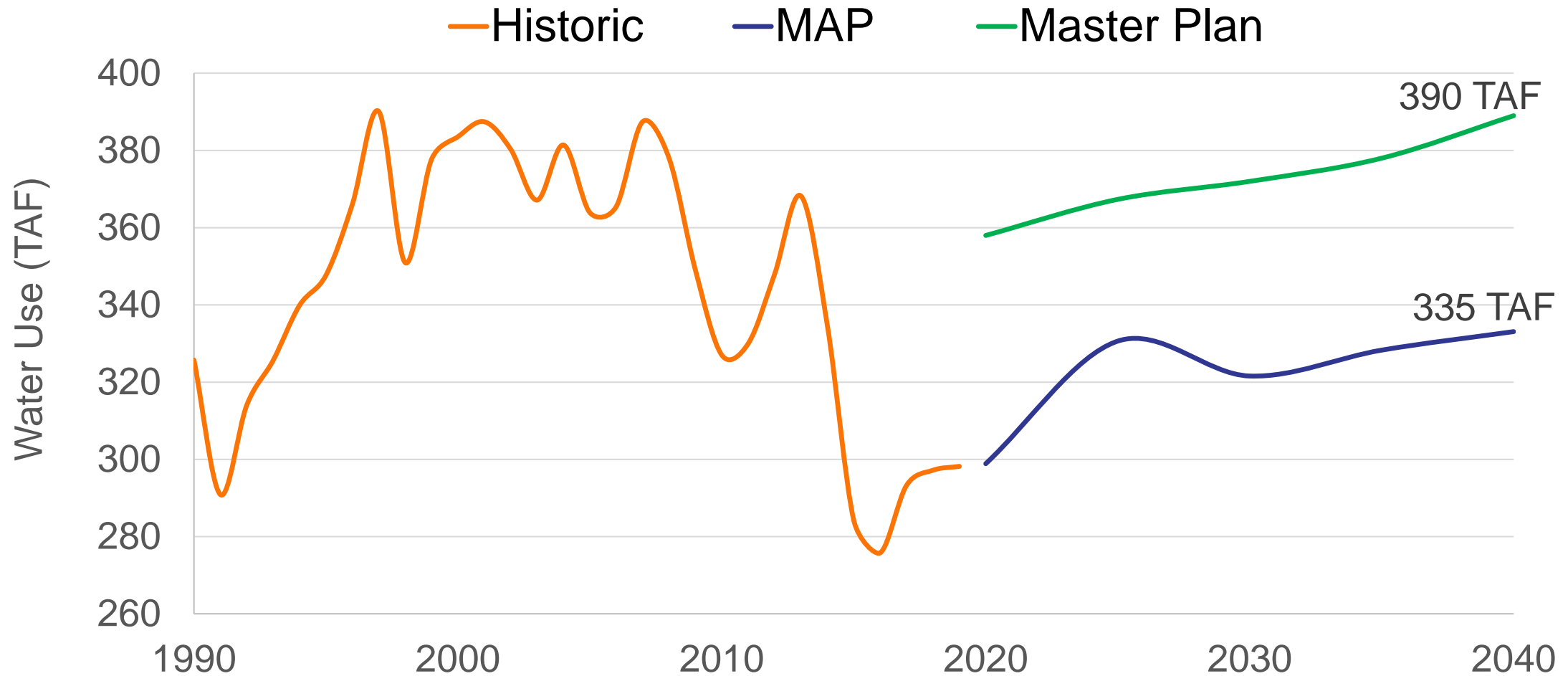
Sites Reservoir (Sites)

Delta Conveyance Project (DCP)

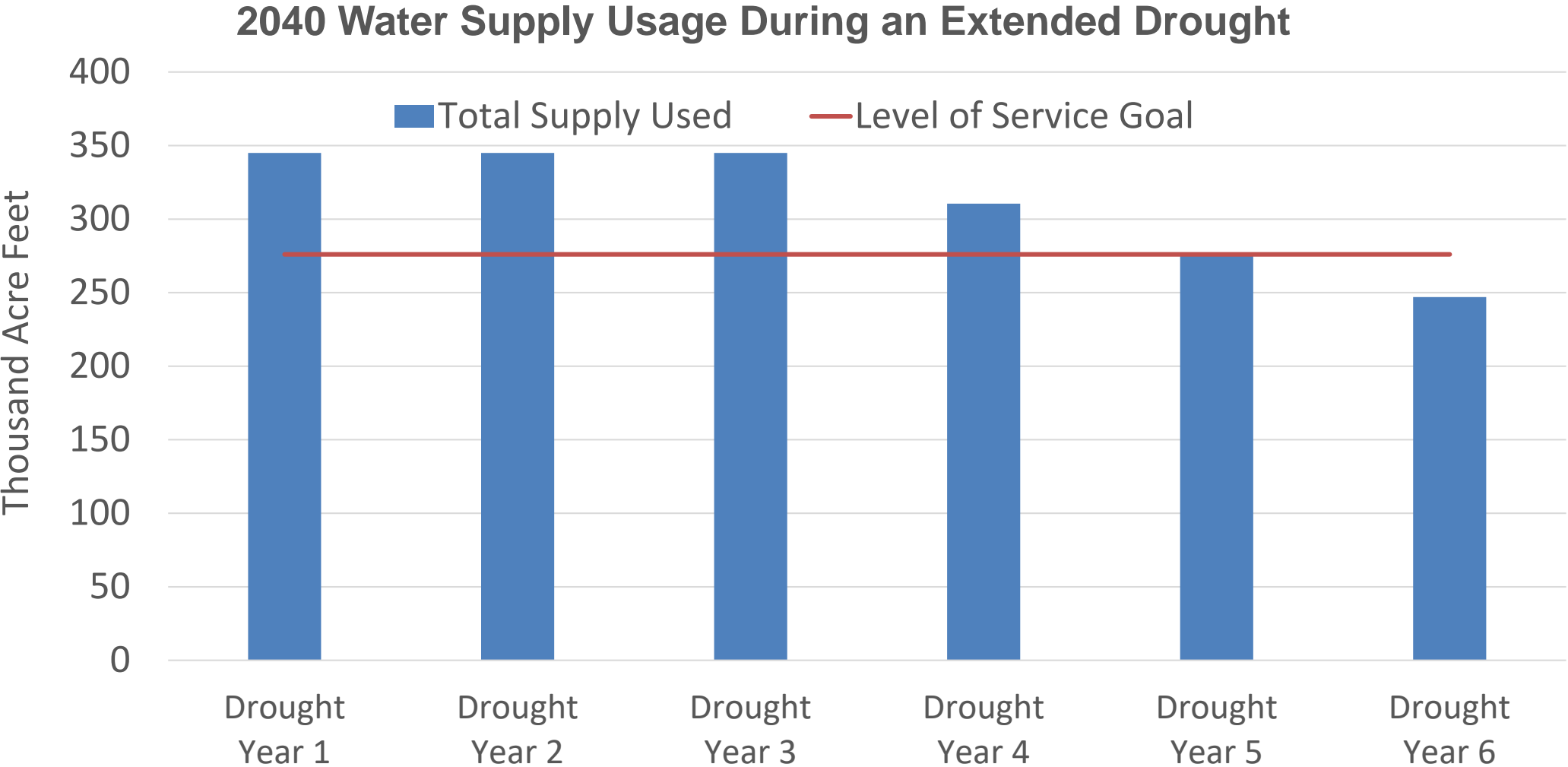
- Upcoming Updates

Pacheco Reservoir Expansion	Early	2021
Annual MAP	Summer	2021
Purified Water Project	Fall	2021
LVE, Sites, DCP	Throughout	2021

New Map Demand Projection

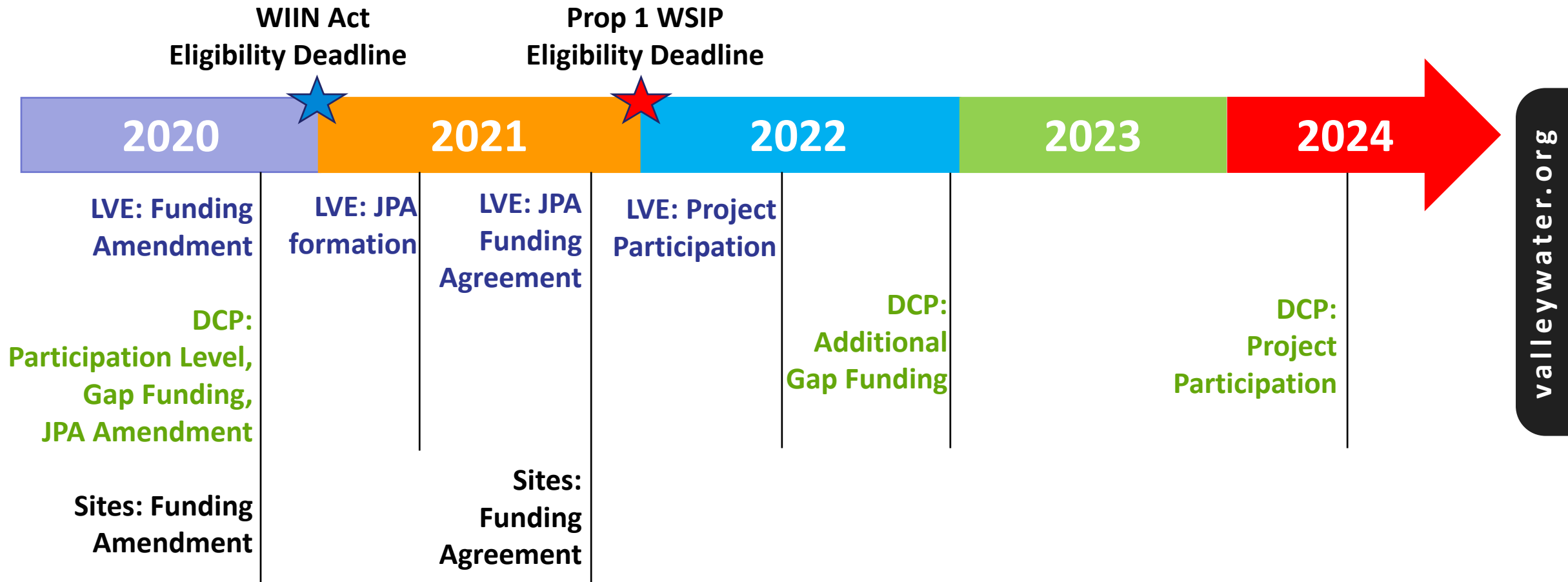


Baseline Investments with New 2040 Demands



Major Decision Points

7



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Decisions for Three Projects

A. Los Vaqueros Expansion & Transfer-Bethany Pipeline

- Cost share agreement not to exceed approximately \$1.0 Million

B. Sites Reservoir Project

- Minimal participation level, \$50,000 funding authorization

C. Delta Conveyance Project

- Provisional participation percentage of 2.73% with authorization up to 3.23%
- Gap funding agreement for up to about \$4.0 million for 2021 / 2022, optional up to about \$7.0 million for 2023 / 2024 with future Board approval
- Amendments to the Delta Conveyance Design and Construction Authority JPA



Update on Los Vaqueros Expansion

Samantha Greene, Ph.D., Senior Water Resources Specialist
Board of Directors Meeting, November 17, 2020

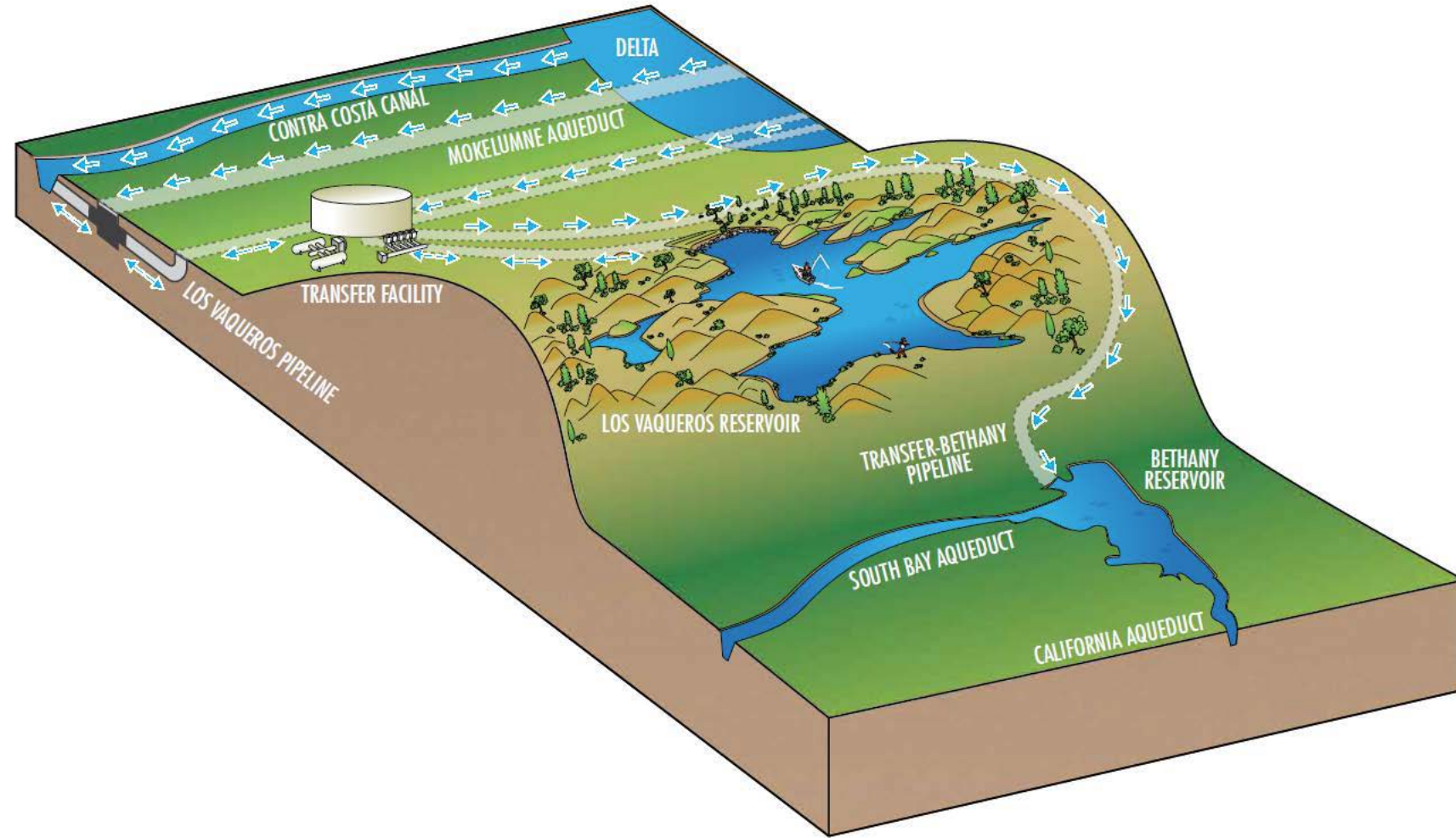
Recommendation

- Approve Amendment 2 to the 2019 Multi-Party Agreement for contract extension through December 2021 and a cost-share not to exceed approximately \$1.0 Million.

Project Location and Description

11

- 275 thousand acre-foot reservoir
 - 115 thousand acre-feet of new storage
 - New storage available to partners
- Upgraded and new conveyance facilities



Project Costs and Benefits

12

Storage:

- Diversify Semitropic Bank
- Provide emergency supply

Transfer Bethany Pipeline:

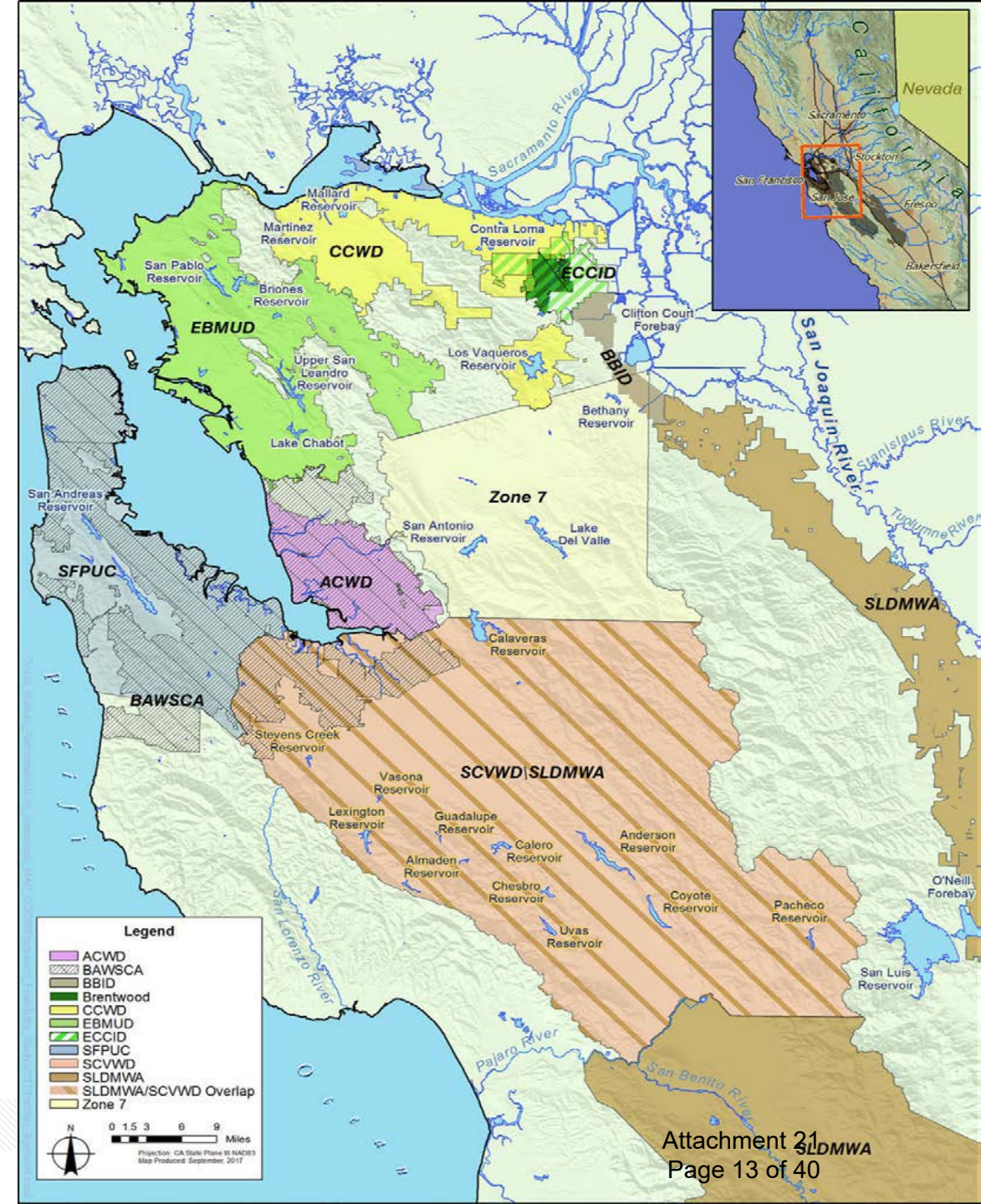
- Provide operational flexibility
- Support potential regional projects
- Access to new Delta water supplies during wet periods (Delta surplus)

STORAGE AND CONVEYANCE	Dedicated Storage (30 TAF)	Pooled Storage (up to 20 TAF)	Transfer Bethany Pipeline Only
PV Life Cycle Cost to Valley Water (2019\$)	\$200 Million	\$50 Million	\$50-250 Million ¹
Average Storage Volume (TAF/yr)	13	3	-
PV life cycle unit cost (\$/AF)	\$1,000	\$1,300	\$700

¹Range represents participation of between 1-7% in the Transfer Bethany Pipeline

LVE Local Agency Partners (LAPs)

1. Contra Costa Water District
2. Alameda County Water District
3. East Bay Municipal Utility District
4. Grassland Water District (Refuge)
5. Santa Clara Valley Water District
6. San Francisco Public Utilities Commission
 - Bay Area Water Supply and Conservation Agency
7. Zone 7 Water Agency
8. San Luis & Delta-Mendota Water Authority
 - Byron Bethany Irrigation
 - Del Puerto Water District
 - Westlands Water District
 - Panoche Water District



Recommendation: Continue Participation

14

- Extends project agreement and funding through December 2021
- Provides time to evaluate effectiveness for supporting Valley Water needs
- Can withdraw at any time
- No commitment to the JPA is included in Amendment 2



Update on Sites Reservoir Project: Second Amendment to 2019 Reservoir Project Agreement for Continued Participation

Cindy Kao, Ph.D., P.E., Imported Water Manager
Board of Directors Meeting, November 17, 2020

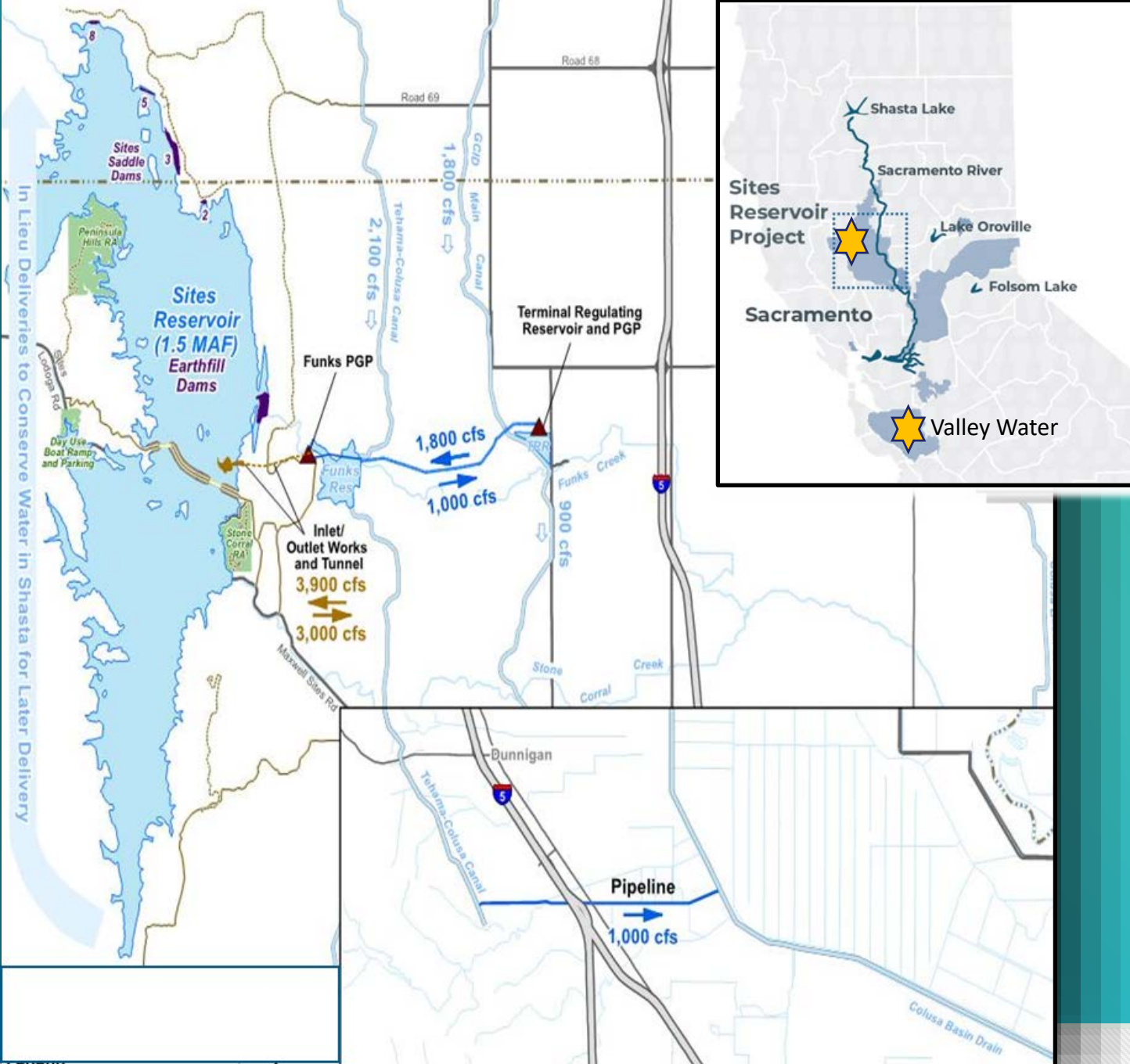
Recommendations

- A. Receive and discuss updated information.
- B. Authorize execution of Second Amendment to 2019 Reservoir Project Agreement at a 0.2% participation level - \$50,000 cost
- C. Direct staff to continue engagement.

Sites Reservoir Project

Location: Colusa and Glenn Counties, California

- Size: 1.5 million acre-foot
- Preliminary Estimated Average Annual Yield: 240,000 acre-foot (AF)
- Preliminary Estimated Dry/Critical (Drier) Annual Yield: 330,000 AF
- Total Project Cost (2019 Dollars): [\$3 - \$3.3] Billion



Potential Benefits to Valley Water

Direct benefits:

- Long term (beyond 2040) water supply reliability
 - New water supplies
 - New storage capacity

Indirect benefits:

- Improved CVP reliability
- Access to new transfer supplies
- Potential to facilitate groundwater banking withdrawals through exchanges

Major Project Risk and Challenges

Water Supply:

- Transportation across Delta
- Projected yield and storage capacities
- Coordinated operations with State and Federal facilities

Permitting & Construction:

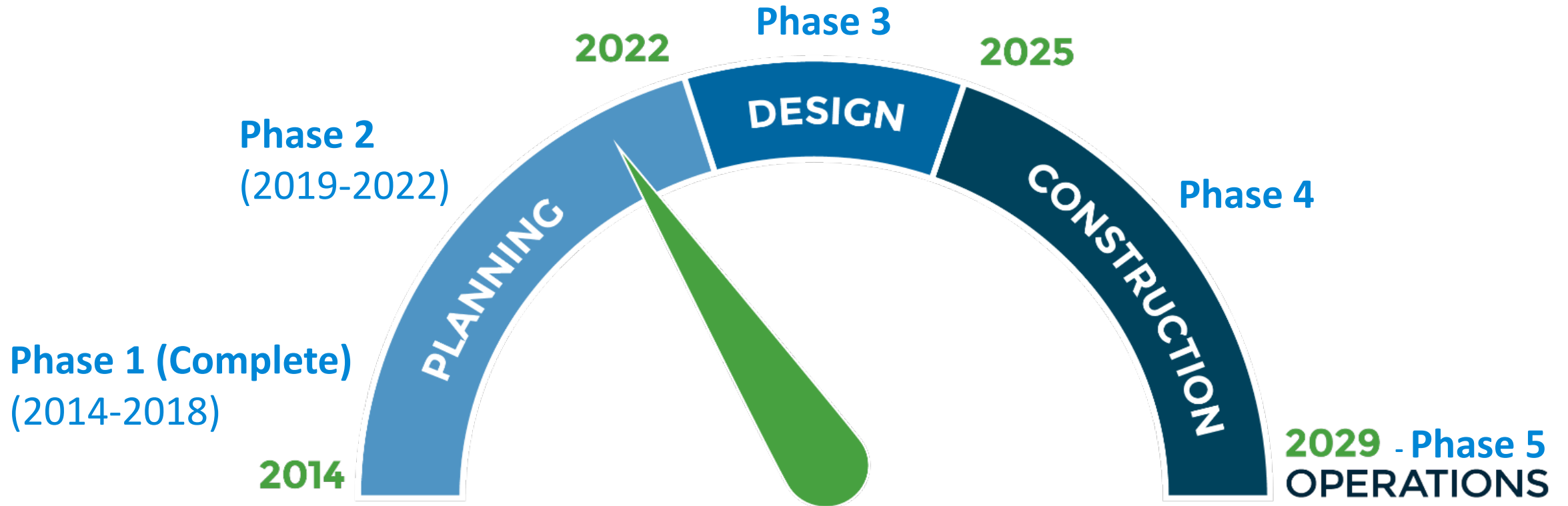
- Secure water rights
- CEQA/NEPA approvals
- Environmental opposition
- Geotechnical uncertainties

Cost:

- Secure adequate participation
- Proposition 1 funding compliance
- Construction cost increases

Path Forward: Project Phasing

Phase 2: Planning - EIR/EIS completion, feasibility studies, predesign, critical permits, and water rights. (In Progress)



Preliminary Amendment 2 Participation

All existing participants, except Valley Water, have approved continued participation

South of Delta: (approx. 75% funding)

- 9 SWP contractors
- 1 SWP and CVP contractor (Valley Water, Pending)
- Requested Yield(s): 500 AF to 50,000 AF

North of Delta: (approx. 25% funding)

- 10 CVP contractors
- 1 SWP contractor
- Requested Yield(s): 300 AF to 10,000 AF



Valley Water Participation Options

- ***Option 1 – Reduce but maintain significant benefits***
 - Reduce requested yield from 16,000 AF to 7,800 AF
 - 3.2% participation, \$780,000 commitment
- ***Option 2 – Reduce participation by half***
 - Reduce requested yield 16,000 AF to 4,000 AF
 - 1.6% participation, \$400,000 commitment
- ***Option 3 (RECOMMENDED) – Reduce to a minimal participation level***
 - Reduce requested yield to 500 AF, insignificant benefits
 - 0.2% participation, \$50,000 commitment
 - Maintains participation in Sites Reservoir Project Committee
- ***Option 4 – Withdraw from the project***
 - Withdraw completely from project and Sites Project Reservoir Committee.

Valley Water Participation Options (Cont.)

Option	Level of Participation		Estimated Benefits (Storage and Yield)			Cost		
	Total Project (%)	Request (AF)	Average Delivered Yield (AF)	Average Drier Year Delivered Yield (AF)	Storage Share (AF)	Total Capital Cost, 2019 Dollars (\$ Million)	Total Capital Cost Fully Inflated (\$ Million)	Funding Commitment (\$ Million)
Feb. 2019	3.2	16,000	11,100	21,500	55,000	192	242	0.96
1	3.2	7,800	4,700 to 6,100	6,500 to 8,200	45,000	97	125	0.78
2	1.6	4,000	2,400 to 3,100	3,300 to 4,200	23,000	50	64	0.40
3	0.2	500	300 to 400	400 to 500	2,800	6	8	0.05
4	0.0	0	0	0	0	0	0	0

- Possibility for reimbursement of funding commitment if reduce participation or withdraw later

Next Steps

- Early 2021: WIIN Act feasibility determination, draft EIR released
- April 1, 2021: 2nd funding payment
- Fall 2021: Consideration of new funding agreement
- Jan 1, 2022: WSIP funding validation



Update on Delta Conveyance Project

Cindy Kao, Ph.D., P.E., Imported Water Manager
Board of Directors Meeting, November 17, 2020

Recommendations

- A. Provisional participation of 2.73% with authorization up to 3.23% total;
- B. Funding agreement for up to about \$4.0 million for 2021 and 2022 planning and design costs, with an option for up to about \$7.0 million, upon future Board approval, for 2023 and 2024; and
- C. Amendment to the Delta Conveyance Design and Construction Authority Joint Powers Agreement

Outline

- A. Agreement in Principle
- B. Provisional Participation Level
- C. Gap Funding Agreement
- D. Design & Construction Authority Amendments
- E. Preliminary Cost Estimate
- F. Preliminary Water Supply Benefits

Guiding Principles

1. **Santa Clara County needs are primary**
2. **All parties pay fair share**
3. **Addresses stakeholder & community input**
4. **Water supply is affordable**
5. **Equity and costs are important**
6. **Flexibility to acquire supplemental water**
7. **Keep negotiating for Santa Clara County**
8. **Public engagement is paramount to success**

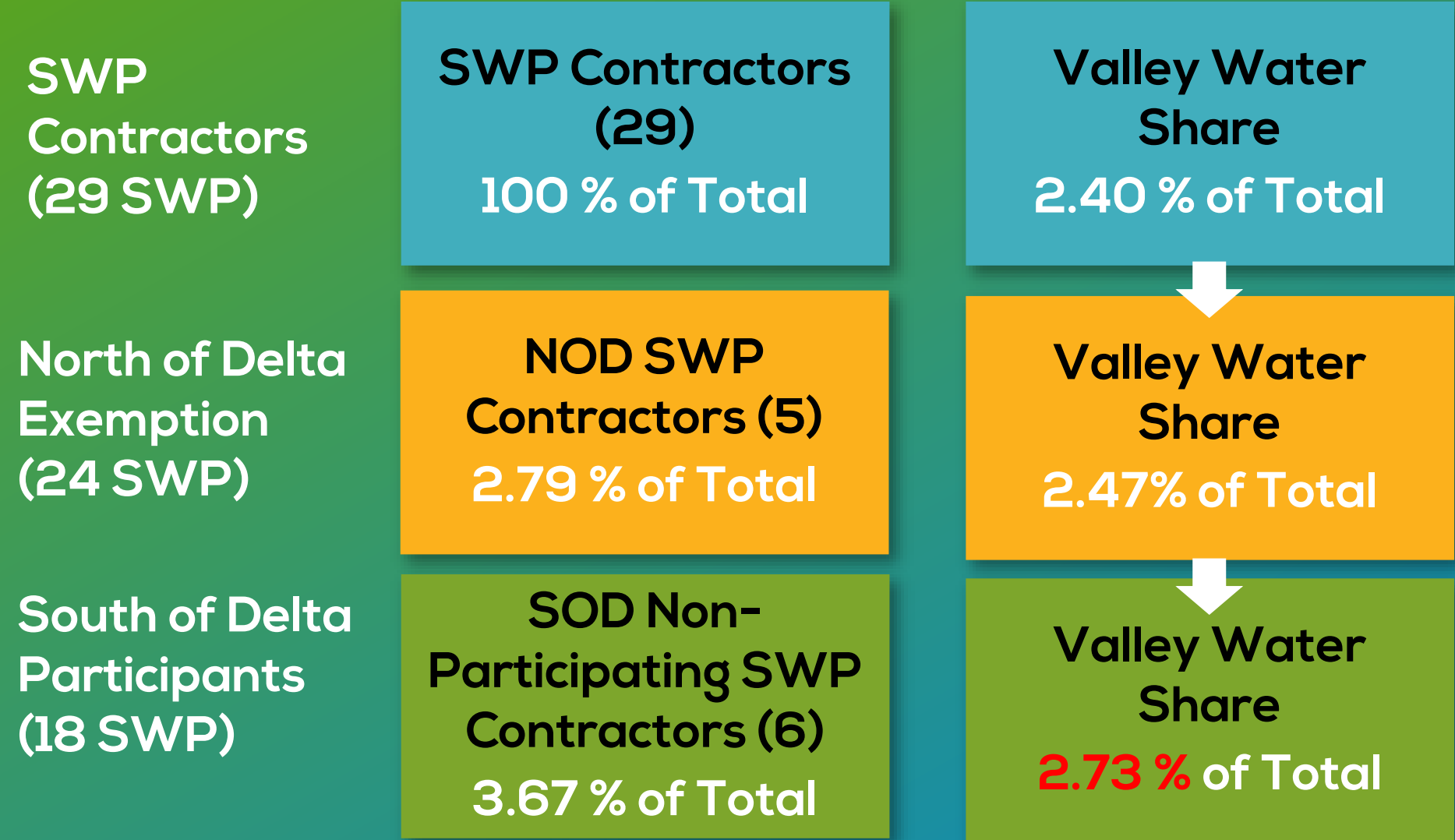
Valley Water Board Resolution 19-69, adopted September 24, 2019

Agreement in Principle

29

- **Basis for future SWP Contract Amendment**
- **Allocates costs and benefits**
- **Option to opt-out of costs & benefits**
- **Option to assume additional costs & benefits**
- **Project Table A and Article 21 supplies**
- **Conveyance capacity for non-Project water, transfers, exchanges**
- **Protection from sea level rise and levee failure events**
- **Carriage water savings**

Provisional Participation Levels



Gap Funding Agreement

Environmental review,
planning and design

Total = \$340.7 million

Option to fund 2 years
or all 4 years

Potential Valley Water

share:	Two Years of Funding	Four Years of Funding
2.5%	\$3.1M	\$8.5M
2.73%	\$3.4M	\$9.3M
3.0%	\$3.7M	\$10.2M
3.23%	\$4.0M	\$11.0M
4.0%	\$5.0M	\$13.6M
5.0%	\$6.2M	\$17.0M
6.0%	\$7.5M	\$20.4M

Proposed Amendments to DCA

Current	Proposed
<p>5 Directors (only 4 filled)</p> <p>Simple majority of Board for all decisions except,</p> <p>80% of Directors needed to:</p> <ol style="list-style-type: none">1. Endorse legislation2. Terminate membership3. Article XII Budget and Expense <p>No Reconsideration Option</p> <p>Approval of all Members needed to amend Agreement</p>	<p>7 Directors</p> <p>Simple majority of Board for all decisions</p> <p>Reconsideration option for Article XII Budget and Expense and certain contracts:</p> <ul style="list-style-type: none">• Construction Contracts >\$10 M• Service Contracts >\$1M <p>Reconsideration requires 70 % Contracted Proportionate Share vote to disapprove motion</p> <p>Approval of two-thirds of Members needed to amend Agreement</p>

Delta Conveyance Alternatives

All Alternatives

Intakes and North Tunnels

East Alternative

Eastern Tunnel Corridor

Central Alternative

Central Tunnel Corridor

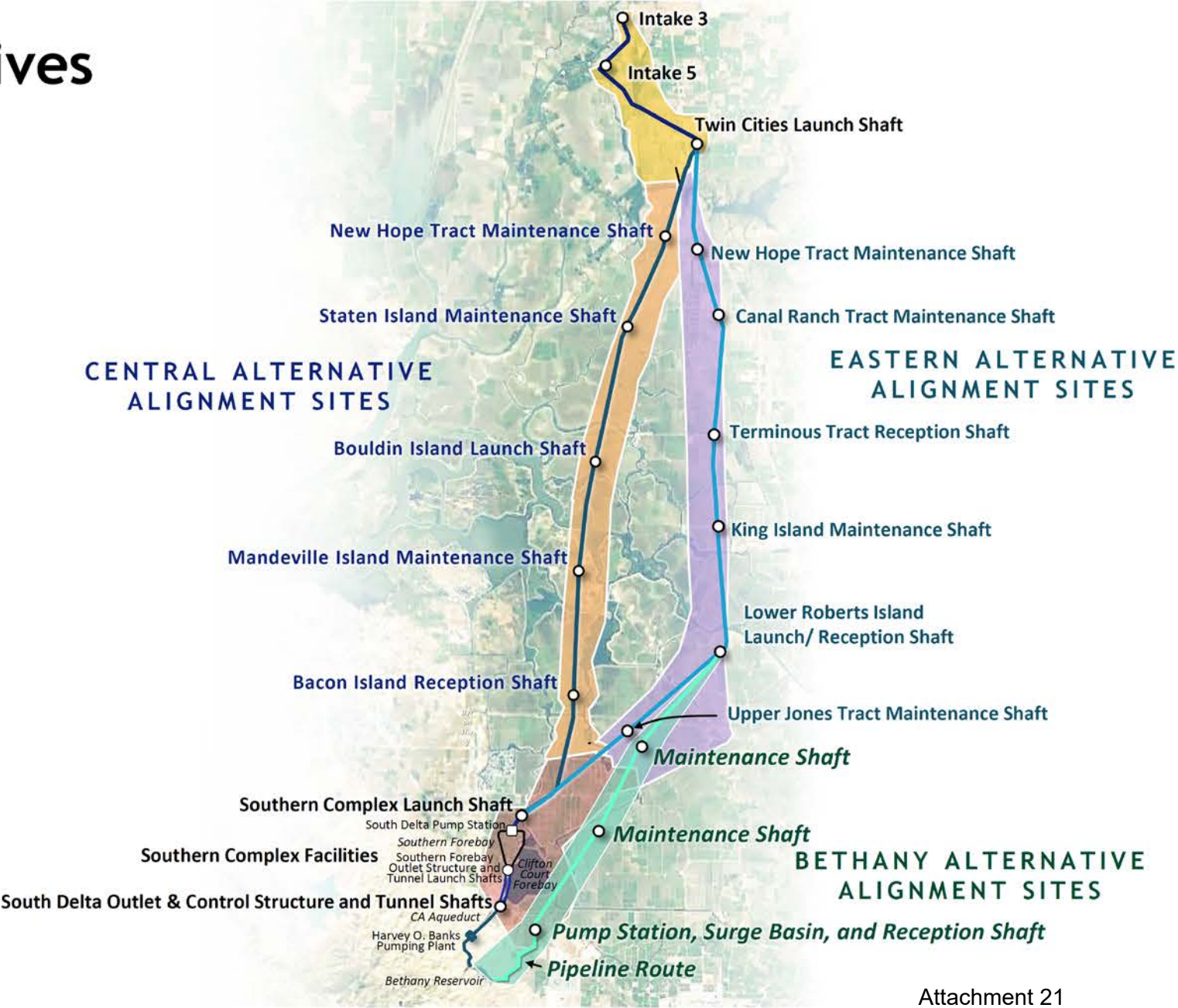
East & Central Alternatives

Pump Station, Southern Forebay & South Delta Conveyance

Bethany Alternative

Eastern Tunnel Corridor

Bethany Corridor, Pump Station, Surge Relief Basin and Pipelines



DCP Preliminary Cost Summary

34

	Costs (2020 dollars)
CONSTRUCTION	\$ 8.77 billion
CONTINGENCY (38%)	\$ 3.33 billion
SOFT COSTS	\$ 3.40 billion
ENVIRONMENTAL MITIGATION	\$ 0.40 billion
TOTAL	\$15.90 billion



Valley Water's Potential Share of Total Capital Costs

Participation Level	Share of Capital Costs ¹
2.5%	\$398 million
2.73%	\$434 million
3.0%	\$477 million
3.23%	\$514 million
4.0%	\$636 million
5.0%	\$795 million
6.0%	\$954 million

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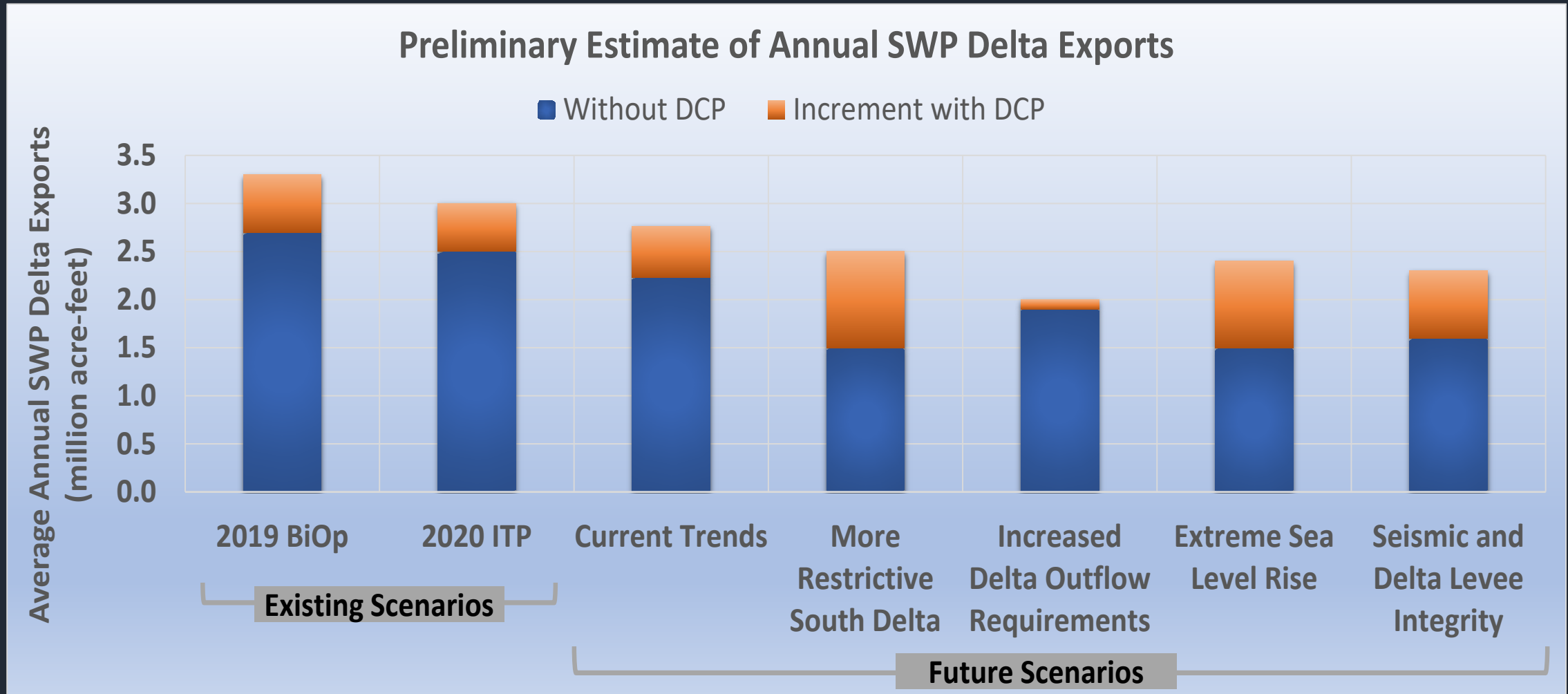
¹Total Project costs are in undiscounted 2020 dollars and do not include financing costs.

Potential Water Supply Benefits

- Climate Change
- Sea Level Rise
- Levee Stability
- Stormwater Capture
- Operational Flexibility
- Water Transfer Capacity
- Carriage Water Savings
- Flow Patterns
- Water Quality

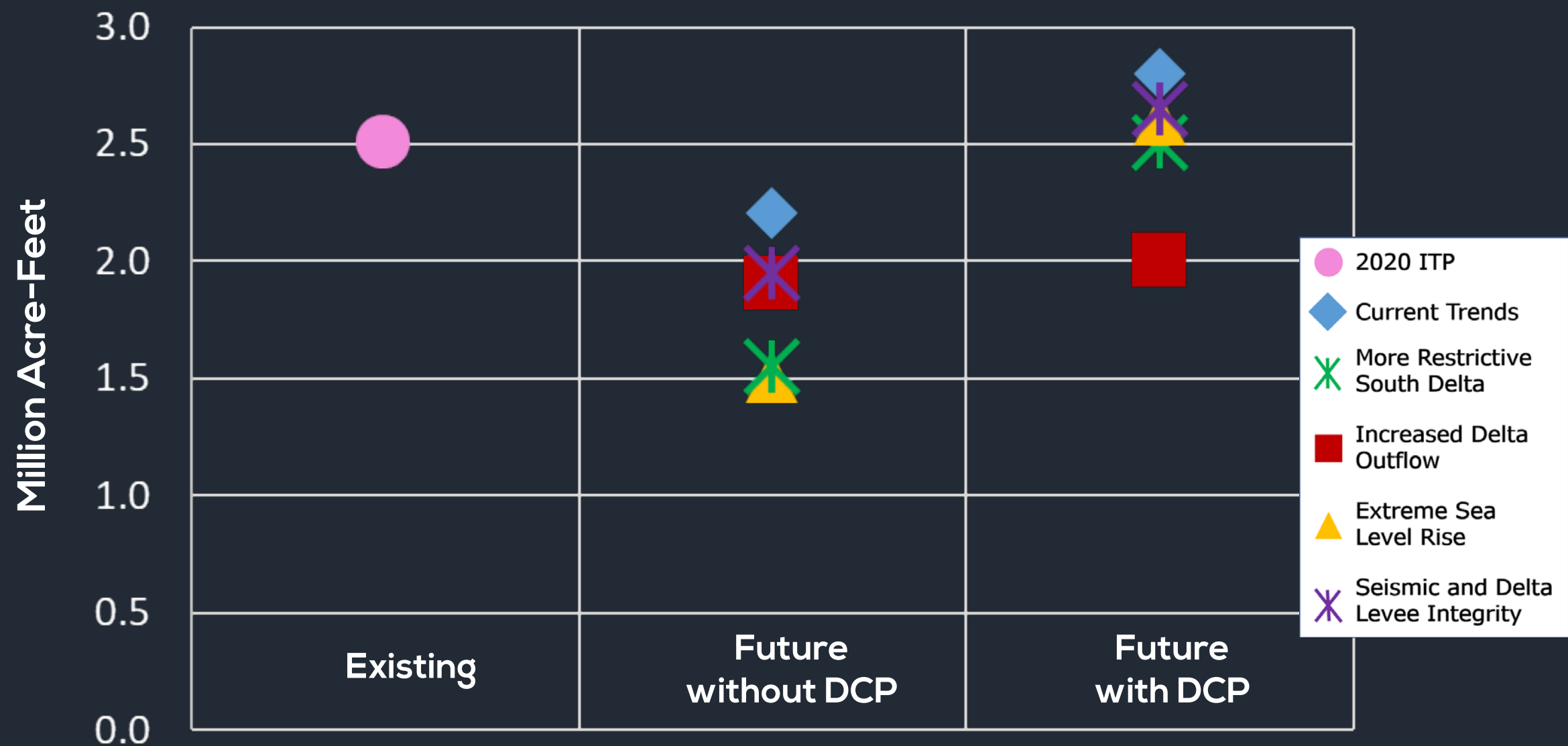


Preliminary SWP Benefits - Estimated Annual Exports



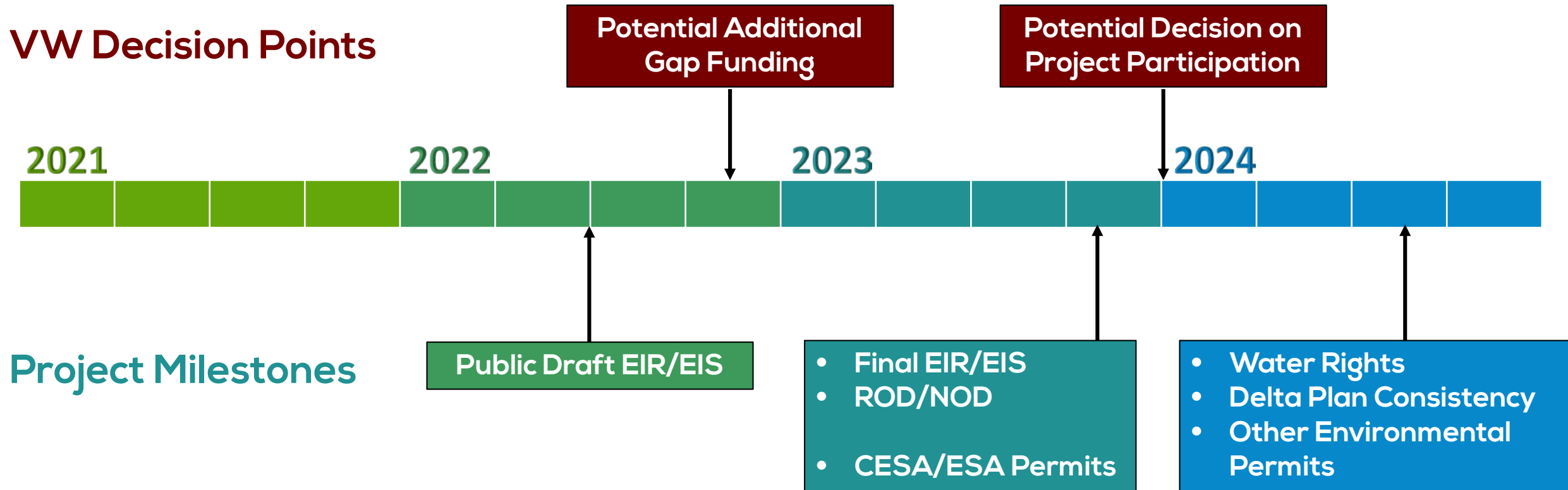
Source: State Water Contractors

Preliminary SWP Benefits - Estimated Annual Exports



Source: State Water Contractors

Delta Conveyance Project Schedule



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