

September 21, 2020

MEETING NOTICE**WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE**

Members of the Water Conservation and Demand Management Committee:

Director Nai Hsueh
Director Linda J. LeZotte, Vice Chair
Director Richard P. Santos, Chair

Staff Support of the Water Conservation and Demand Management Committee:

Rick Callender, Esq., Chief Executive Officer
Melanie Richardson, Assistant Chief Executive Officer
Garth Hall, Interim Chief Operating Officer, Water Utility
Rachael Gibson, interim Chief of External Affairs
Stanly Yamamoto, District Counsel
Aaron Baker, Deputy Operating Officer, Raw Water Division
Vincent Gin, Deputy Operating Officer, Water Supply Division
Bhavani Yerrapotu, Deputy Operating Officer, Treated Water Operations & Maintenance Division
Donald Rocha, Interim Deputy Administrative Officer, Office of Government Relations
Bart Broome, Assistant Officer, Office of Government Relations
Antonio Alfaro, Government Relations Advocate, Office of Government Relations
Jerry De La Piedra, Assistant Officer, Water Supply Division
Vanessa De La Piedra, Groundwater Management Manager, Groundwater Monitoring and Analysis Unit
Metra Richert, Unit Manager of the Water Supply Planning and Conservation Unit, Water Supply Division,
Samantha Greene, Senior Water Resources Specialist, Water Supply Planning & Conservation Unit
Karen Koppett, Senior Water Conservation Specialist, Water Supply Planning & Conservation Unit

The regular meeting of the Water Conservation and Demand Management Committee is scheduled to be held on **Tuesday, September 29, 2020, at 10:00 a.m.** Join Zoom Meeting <https://valleywater.zoom.us/j/91822935541>

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting.

Enclosures



Water Conservation and Demand Management Committee Meeting

Join Zoom Meeting

<https://valleywater.zoom.us/j/91822935541>

Meeting ID: 918 2293 5541

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Meeting ID: 918 2293 5541



Santa Clara Valley Water District Water Conservation and Demand Management Committee Meeting

Teleconference via Zoom

Join Zoom Meeting

<https://valleywater.zoom.us/j/91822935541>

REGULAR MEETING AGENDA

**Tuesday, September 29, 2020
10:00 AM**

District Mission: Provide Silicon Valley safe, clean water for a healthy life, environment and economy.

BOARD REPRESENTATIVES:
Director Nai Hsueh
Director Linda J. LeZotte, Vice Chair
Director Richard P. Santos, Chair

All public records relating to an item on this agenda, which are not exempt from disclosure pursuant to the California Public Records Act, that are distributed to a majority of the legislative body will be available for public inspection at the Office of the Clerk of the Board at the Santa Clara Valley Water District Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118, at the same time that the public records are distributed or made available to the legislative body. Santa Clara Valley Water District will make reasonable efforts to accommodate persons with disabilities wishing to attend Board of Directors' meeting. Please advise the Clerk of the Board Office of any special needs by calling (408) 265-2600.

Mr. Jerry De La Piedra
(Staff Liaison)

Ms. Glenna Brambill, (COB
Liaison)
Management Analyst II
gbrambill@valleywater.org
1-408-630-2408

Note: The finalized Board Agenda, exception items and supplemental items will be posted prior to the meeting in accordance with the Brown Act.

Santa Clara Valley Water District
Water Conservation and Demand Management

REGULAR MEETING
AGENDA

Tuesday, September 29, 2020

10:00 AM

Teleconference via Zoom

IMPORTANT NOTICES

This meeting is being held in accordance with the Brown Act as currently in effect under the State Emergency Services Act, the Governor's Emergency Declaration related to COVID-19, and the Governor's Executive Order N-29-20 issued on March 17, 2020 that allows attendance by members of the Committee, staff, and the public to participate and conduct the meeting by teleconference, videoconference, or both.

Members of the public wishing to address the Committee during a video conferenced meeting on an item not listed on the agenda, or any item listed on the agenda, should use the "Raise Hand" or "Chat" tools located in Zoom meeting link listed on the agenda. Speakers will be acknowledged by the Committee Chair in the order requests are received and granted speaking access to address the Committee.

Santa Clara Valley Water District (Valley Water) in complying with the Americans with Disabilities Act (ADA), requests individuals who require special accommodations to access and/or participate in Valley Water Committee meetings to please contact the Clerk of the Board's office at (408) 630-2711, at least 3 business days before the scheduled meeting to ensure that Valley Water may assist you.

This agenda has been prepared as required by the applicable laws of the State of California, including but not limited to, Government Code Sections 54950 et. seq. and has not been prepared with a view to informing an investment decision in any of Valley Water's bonds, notes or other obligations. Any projections, plans or other forward-looking statements included in the information in this agenda are subject to a variety of uncertainties that could cause any actual plans or results to differ materially from any such statement. The information herein is not intended to be used by investors or potential investors in considering the purchase or sale of Valley Water's bonds, notes or other obligations and investors and potential investors should rely only on information filed by Valley Water on the Municipal Securities Rulemaking Board's Electronic Municipal Market Access System for municipal securities disclosures and Valley Water's Investor Relations website, maintained on the World Wide Web at <https://emma.msrb.org/> and <https://www.valleywater.org/how-we-operate/financebudget/investor-relations>, respectively.

1. Roll Call.

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON THE AGENDA.

Notice to the Public: Members of the public who wish to address the Committee on any item not listed on the agenda should access the "Raise Hand" or "Chat" tools located in Zoom meeting link listed on the agenda. Speakers will be acknowledged by the Committee Chair in order requests are received and granted speaking access to address the Committee. Speakers comments should be limited to two minutes or as set by the Chair. The law does not permit Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Committee action is requested, the matter may be placed on a future agenda. All comments that require a response will be referred to staff for a reply in writing. The Committee may take action on any item of business appearing on the posted agenda.

3. APPROVAL OF MINUTES:

3.1. Approval of Minutes. [20-0815](#)

Recommendation: Approve the November 19, 2019, Meeting Minutes.

Manager: Michele King, 408-630-2711

Attachments: [Attachment 1: 111919 WCaDM Comm DRAFT Mins](#)

Est. Staff Time: 5 Minutes

4. ACTION ITEMS:

4.1. Water Conservation Strategic Plan. [20-0816](#)

Recommendation: This is an information only item and no action is required.

Manager: Jerry De La Piedra, 408-630-2257

Est. Staff Time: 15 Minutes

4.2. Water Supply Master Plan 2040 Monitoring and Assessment Program. [20-0817](#)

Recommendation: This is an information only item and no action is required.

Manager: Jerry De La Piedra, 408-630-2257

Attachments: [Attachment 1: Project List](#)
[Attachment 2: Staff Presentation](#)

Est. Staff Time: 15 Minutes

4.3. Agricultural Water Use Baseline Study. [20-0818](#)

Recommendation: This is an information only item and no action is required.

Manager: Jerry De La Piedra, 408-630-2257

Est. Staff Time: 15 Minutes

- 4.4. Collaboration with UC Water on Flood Managed Aquifer Recharge. [20-0819](#)
Recommendation: This is an information only item and no action is required.
Manager: Jerry De La Piedra, 408-630-2257
Attachments: [Attachment 1: Staff Presentation](#)
Est. Staff Time: 15 Minutes
- 4.5. Sustainable Groundwater Management Act (SGMA) Update. [20-0820](#)
Recommendation: This is an information only item and no action is required.
Manager: Aaron Baker, 408-630-2135
Attachments: [Attachment 1: PowerPoint](#)
Est. Staff Time: 15 Minutes
- 4.6. Water Demand Forecasting [20-0821](#)
Recommendation: This is an information only item, no action is required.
Manager: Jerry De La Piedra, 408-630-2257
Attachments: [Attachment 1: Staff Presentation](#)
Est. Staff Time: 15 Minutes
- 4.7. Review Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda. [20-0836](#)
Recommendation: Review the Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.
Manager: Michele King, 408-630-2711
Attachments: [Attachment 1: WCaDM 2020 Work Plan](#)
Est. Staff Time: 5 Minutes

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS.

This is an opportunity for the Clerk to review and obtain clarification on any formally moved, seconded, and approved requests and recommendations made by the Committee during the meeting.

6. ADJOURN:

- 6.1. Adjourn



Santa Clara Valley Water District

File No.: 20-0815

Agenda Date: 9/29/2020

Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Approval of Minutes.

RECOMMENDATION:

Approve the November 19, 2019, Meeting Minutes.

SUMMARY:

A summary of Committee discussions, and details of all actions taken by the Committee, during all open and public Committee meetings, is transcribed and submitted for review and approval.

Upon Committee approval, minutes transcripts are finalized and entered into the District's historical records archives and serve as historical records of the Committee's meeting.

ATTACHMENTS:

Attachment 1: 11192019 WCaDMC Draft Minutes

UNCLASSIFIED MANAGER:

Michele King, 408-630-2711



WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE MEETING

DRAFT MINUTES

**TUESDAY, NOVEMBER 19, 2019
10:00 AM**

A regularly scheduled meeting of the Water Conservation and Demand Management Committee was held on November 19, 2019, in the Headquarters Building Boardroom at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

Committee Chair, Director Richard P. Santos called the meeting to order at 10:01 a.m.

Board Members in attendance were: Director Nai Hsueh-District 5, Director Linda J. LeZotte-District 4, and Director Richard P. Santos-District 3.

Staff members in attendance were: Glenna Brambill, Domingo Candelas, Jerry De La Piedra, Vanessa De La Piedra, Garth Hall, Nina Hawk and Brian Hopper.

Guests in attendance were: Brian Boyer (Cinnabar Hills Golf Club), William Sherman and Bill Tuttle (San Jose Water Company).

2. TIME OPEN FOR PUBLIC COMMENT ON ANY ITEM NOT ON AGENDA

There was no one present who wished to speak.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Director Linda J. LeZotte, seconded by Director Nai Hsueh and unanimously carried, to approve the minutes of the September 17, 2019, Water Conservation and Demand Management Committee meeting as presented.

3.2 APPROVAL OF MINUTES

It was moved by Director Linda J. LeZotte, seconded by Director Nai Hsueh and unanimously carried, to approve the minutes of the September 25, 2019, Water Conservation and Demand Management Committee special meeting and tour as presented.

4. ACTION ITEMS

4.1 REQUEST TO REVIEW BOARD'S ENDS POLICY E-2 2.1

Mr. Jerry De La Piedra reviewed the materials as outlined in the agenda item.

The Water Conservation and Demand Management Committee discussed the following: ends policy having strategies, align water supply master plan with terms and dates in the policy, new policies for Board review, Asset Management, Emergency Response, Security, baselines incorporated into ends policies, review/adding goals and objectives.

Mr. Bill Tuttle asked about water supply and definition of drought.

Mr. William Sherman spoke on the Water Supply Master Plan demand and service levels with drought.

Mr. Garth Hall was available to answer questions.

The Water Conservation and Demand Management Committee took no action.

4.2 REVIEW OF WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE WORK PLAN, THE OUTCOMES OF BOARD ACTION OF COMMITTEE REQUESTS AND THE COMMITTEE'S NEXT MEETING AGENDA

Ms. Glenna Brambill reviewed the materials as outlined in the agenda items.

The Water Conservation and Demand Management Committee would like to have the Policy discussion for the next meeting broken into Goals and Objectives.

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE'S REQUESTS

Ms. Glenna Brambill stated there were no action items for Board consideration.

6. ADJOURNMENT

Chair Santos adjourned at 10:29 a.m.

Glenna Brambill
Board Committee Liaison
Office of the Clerk of the Board

Approved:



Santa Clara Valley Water District

File No.: 20-0816

Agenda Date: 9/29/2020

Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Water Conservation Strategic Plan.

RECOMMENDATION:

This is an information only item and no action is required.

SUMMARY:

Santa Clara Valley Water District (Valley Water) has a long-term water conservation goal of saving nearly 100,000 acre-feet per year by 2030 (base year of 1992), and nearly 110,000 acre-feet per year by 2040, as specified in Valley Water's Water Supply Master Plan 2040.

To achieve this savings goal, Valley Water and its retailers partner to implement nearly 20 different ongoing water conservation programs that use a mix of incentives and rebates, free device installation, residential and commercial landscape surveys, and educational outreach to reduce water consumption in homes, businesses and agriculture. Programs include replacing high-water using landscaping with low-water using landscape, installing efficient irrigation equipment, and offering incentives for graywater laundry-to-landscape systems. Valley Water also implements an annual water conservation campaign that typically includes an online component, social media, and traditional media ads.

As of Fiscal Year 2020, Valley Water has achieved approximately 74,200 acre-feet of water savings (base year of 1992). In order to reach the savings goals for 2030 and 2040, [the 2008 Water Use Efficiency Strategic Plan <https://www.valleywater.org/sites/default/files/Water%20Use%20Efficiency%20Strategic%20Plan.pdf>](https://www.valleywater.org/sites/default/files/Water%20Use%20Efficiency%20Strategic%20Plan.pdf) is being updated to analyze options for meeting Valley Water's long-term savings goals as well as strategies for addressing a water shortage.

To update the 2008 Water Use Efficiency Strategic Plan, Valley Water conducted a competitive bid process and selected the consulting firm EKI. The plan is currently in the data collection phase and is expected to be finalized this fiscal year. Updates will be provided at future committee meetings.

ATTACHMENTS:

None.

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257



Santa Clara Valley Water District

File No.: 20-0817

Agenda Date: 9/29/2020

Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Water Supply Master Plan 2040 Monitoring and Assessment Program.

RECOMMENDATION:

This is an information only item and no action is required.

SUMMARY:

The Water Supply Master Plan 2040 (Master Plan) is Santa Clara Valley Water District's (Valley Water) strategy for providing a reliable and sustainable water supply in a cost-effective manner consistent with Board Policy E-2.1 "There is a reliable, clean water supply for current and future generations". It informs investment decisions by describing the type and level of water supply investments Valley Water is planning to make through 2040, the anticipated schedule, the associated costs and benefits, and how the plan will be monitored and adjusted through the Master Plan's Monitoring and Assessment Program (MAP).

The Master Plan, which was adopted by the Board of Directors (Board) in November 2019, defines a new level of service goal, provides an investment strategy, and recommends water supply projects that achieve the investment strategy and level of service goal. However, new data, modeling, and project information is available each year and needs to be integrated into the Master Planning process to determine if the recommended projects will still achieve the level of service goal. Therefore, the MAP integrates new information and tracks changes forecasted for existing water supplies (e.g. imported contract supplies, local water supplies and infrastructure, etc.), potential future water supply projects, and forecasted demands. MAP helps ensure Valley Water is effectively and efficiently implementing the Master Plan and includes a report to the Board at least annually. This memorandum provides a MAP update and next steps in developing the annual report which will be presented to the Board in fall 2020.

Water Supply Master Plan 2040 Strategy

Valley Water's level of service goal is to "develop water supplies designed to meet at least 100 percent of average annual water demand identified in Valley Water's Water Supply Master Plan during non-drought years and at least 80 percent of average annual water demand in drought years." To ensure Valley Water achieves its level of service goal, the Master Plan recommends the following strategy:

- 1) Secure existing supplies and infrastructure

- 2) Expand water conservation and reuse
- 3) Optimize the use of existing supplies and infrastructure

Valley Water staff partner with internal and external stakeholders to ensure staff maintain an accurate understanding of the existing system and water demands, participate in the development of new water supply projects, and fully evaluate whether investments are needed to meet Valley Water's level of service goal, and if so, which projects best achieve the Master Plan investment strategy summarized above.

MAP Evaluation

Existing Water Supply System

Valley Water staff updates and evaluates new information about the existing water supply system. This updated and new information is input into Valley Water's Water Evaluation and Planning (WEAP) model to evaluate how Valley Water will meet its level of service goal. Review of the existing water supply system primarily included:

- 1) Storage space in Valley Water's reservoirs using bathymetry information collected by the Raw Water Operations and Maintenance Unit
- 2) South Bay Aqueduct conveyance capacity using information from the Department of Water Resources and the South Bay Aqueduct Capacity Analysis being completed by the South Bay Contractors
- 3) Imported water contract language
- 4) Anderson seismic retrofit construction timeline and operations

Potential Future Water Supply Projects

Valley Water is actively participating in local, regional, and state water supply projects to help define project objectives and determine whether Valley Water should invest in those projects to meet the level of service goal. All projects in Appendix H of the Water Supply Master Plan (Attachment 1) are being reviewed and re-evaluated considering changes to each project's design and performance, operations of the existing system, and forecasted demands.

Forecasted Water Demands

The demand forecasts in the Master Plan were developed in 2016 with the best available data and assumed a rebound to pre-drought water use. Since 2016, drought rebound has been significantly less than in forecasts, there is more water-use data available, and new housing and economic development forecasts (e.g. Plan Bay Area) have been published. These factors warranted the development of a new Valley Water Demand Model. After a competitive bidding process, Valley Water contracted with Hazen and Sawyer (Consultant) to develop a new demand model. Valley Water staff are providing an update on the demand model effort, including initial results, at the September 29, 2020 Water Conservation and Demand Management Committee meeting.

Next steps

Staff are using Valley Water's Water Evaluation and Planning (WEAP) model to evaluate the updated projects in Attachment 1 with the new demands and water supply system updates. Using the WEAP model, staff will assess what level of investment is needed to meet the level of service goal and

which projects, given the Master Plan investment strategy, can be used to achieve that goal. Staff plans to present the MAP report to the Board in fall 2020.

ATTACHMENTS:

Attachment 1: Project list

Attachment 2: Staff presentation

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257

Water Supply Master Plan 2040 Project List (as of February 2019)

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Anderson Reservoir Expansion: Increases reservoir storage by 100,000 AF to about 190,000 AF, increasing Valley Water’s ability to capture and store local runoff. Planning for reconstruction of Anderson Reservoir to meet seismic standards is currently underway. Consideration of also expanding the reservoir would likely delay the required work.	Inactive	\$1.2 billion	10,000	\$5,300	TBD
Bay Area Brackish Water Treatment/Regional Desalination: Secures a partnership with other Bay Area agencies to build a brackish water treatment plant in Contra Costa County. Valley Water would receive up to 5 MGD of water in critical dry years. There are concerns permitting and the availability of water rights during dry periods when such a facility would be most needed. This project will require collaboration among multiple agencies and requires partners for moving forward.	Active	\$80 million	1,000	\$2,900	TBD

¹ Project status is either “Master Plan Project” for projects in the Water Supply Master Plan 2040, “Active” for projects where there is ongoing Valley Water activity and the project could be an alternative project for the Water Supply Master Plan, or “Inactive” for projects that could be potential future projects.

² Valley Water Lifecycle Cost (Present Value, 2018\$) includes capital, operations, maintenance, rehabilitation, and replacement costs, as applicable, for a 100-year period, discounted back to 2018 dollars. Only Valley Water costs, after grants and other funding sources, are included. All costs are subject to change pending additional planning and analysis.

³ The average annual yield of many projects depends on which projects they are combined with and the scenario being analyzed. For example, groundwater banking yields are higher in portfolios that include wet year supplies. Similarly, they would be lower in scenarios where demands exceed supplies and excess water is unavailable for banking.

⁴ Valley Water staff complete risk ranking analyses in September 2017 and December 2018. Not all the potential projects were included in the analysis. “TBD” indicates the project was not included in either of the risk ranking analyses.

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Calero Reservoir Expansion: Expands Calero Reservoir storage by about 14,000 AF to 24,000 AF. Planning and design for Calero Reservoir Seismic Retrofit project is currently underway. Consideration of also expanding the reservoir would likely delay the required work.	Inactive	\$180 million	3,000	\$2,300	TBD
Church Avenue Pipeline: Diverts water from the Santa Clara Conduit to the Church Avenue Ponds. The Morgan Hill recharge projects provide the same or better yields at a lower cost.	Inactive	\$31 million	1,000	\$900	TBD
Conservation Rate Structures: Many retailers implement conservation rate structures. Given recent court rulings on rate structure, retailers are reluctant to add new conservation rate structures at this time	Inactive	TBD	TBD	TBD	TBD
Countywide Water Reuse Master Plan: Valley Water is working with local recycled water producers, retailers, and other stakeholders to develop a Countywide Water Reuse Master Plan (CWRMP) that will address key challenges in potable water reuse, including: (1) identification of how much water will be available for potable reuse and non-potable recycled water expansion, (2) evaluation of system integration options, (3) identification of specific potable reuse and recycled water projects, and (4) development of proposals for governance model alternatives including roles and responsibilities. The plan, which is scheduled to be completed in 2020, may identify additional reuse opportunities to incorporate into the Water Supply Master Plan.	Active	TBD	TBD	TBD	TBD

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
<p>Delta Conveyance Project (formerly known as California WaterFix): Constructs alternative conveyance capable of diverting up to 9,000 cubic feet-per-second from the Sacramento River north of the Delta and delivering it to the SWP pumps at the southern end of the Delta. The goal is to reduce impacts of diversions, help maintain existing deliveries, improve the ability to do transfers, help adapt to changing precipitation and runoff patterns, and protect water quality from sea level rise. The project has significant implementation complexity and stakeholder opposition. The State is currently revising the project from two tunnels down to one tunnel. A new project description is forthcoming.</p>	Master Plan Project	\$630 million	41,000	\$600	High - Extreme
<p>Del Valle Reoperations: This project, as currently envisioned, would allow for more storage in Lake Del Valle, a State Water Project facility in Del Valle Regional Park that is operated by East Bay Regional Park District. The benefits of the additional storage are primarily related to operational flexibility and water quality. The project may not increase long-term water supply yields or drought year yields.</p>	Inactive				TBD
<p>Dry Year Options / Transfers: Provides 12,000 AF of State Water Project transfer water during critical dry years through long-term agreements. Amount can be increased or decreased. There are uncertainties with long-term costs and ability to make transfers in critical dry years. Short-term water transfers and exchanges are part of routine Valley Water imported water operations.</p>	Inactive	\$100 million	2,000	\$1,400	Low

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Groundwater Banking: Provides up to 120,000 AF of banking capacity for Central Valley Project and State Water Project contract water. Sends excess water to a groundwater bank south of the Delta during wet years and times of surplus for use during dry years and times of need. Amount could be increased or decreased. There are uncertainties with the ability to make transfers in critical dry years and Sustainable Groundwater Management Act implementation.	Active	\$75 million	2,000	\$1,300	Low
Lexington Pipeline: Constructs a pipeline between Lexington Reservoir and the raw water system to provide greater flexibility in using local water supplies. The pipeline would allow surface water from Lexington Reservoir to be put to beneficial use elsewhere in the county and increase utilization of existing water rights, especially in combination with the Los Gatos Ponds Potable Reuse project. In addition, the pipeline will enable Valley Water to capture some wet-weather flows that would otherwise flow to the Bay. Water quality issues would require pre-treatment/management. An institutional alternative could include an agreement to use some of Valley Water's Lexington Reservoir water right at San Jose Water Company's Montevina Water Treatment Plant.	Inactive	\$85 million	3,000	\$1,000	Low
Local Land Fallowing: Launches program to pay growers not to plant row crops in critical dry years. This would primarily save water in the South County. The South County recharge projects have similar or greater yields at a lower cost and are more consistent with County land use policy and grower interests.	Inactive	\$50 million	1,000	\$2,400	TBD

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Los Vaqueros Reservoir: Secures an agreement with Contra Costa Water District and other partners to expand the off-stream reservoir by 115 TAF (from 160 TAF to 275 TAF) and construct a new pipeline (Transfer-Bethany) connecting the reservoir to the South Bay Aqueduct. Assumes Valley Water’s share is 30 TAF of storage, which includes an emergency storage pool of 20 TAF for use during droughts. Would require funding and operating agreements with multiple parties, likely including formation of a Joint Powers Authority.	Active	\$131 million	3,600	\$1,200	Medium
Morgan Hill Recycled Water: Constructs a 2.25 MGD scalping plant in Morgan Hill. Would need to replace a lower cost recycled water project in Gilroy due to capacity constraints on the system.	Inactive	\$85 million	3,000	\$1,100	TBD
Additional Conservation and Stormwater Projects and Programs	Master Plan Project	\$60 million	11,000	\$200	Medium
Advanced Metering Infrastructure (AMI): Implements a cost share program with water retailers to install AMI throughout their service area. AMI would alert customers of leaks and provide real-time water use data that allows users to adjust water use.		\$20 million	4,000	\$100	Low
Graywater Rebate Program Expansion: Expand Valley Water’s existing rebate program for laundry-to-landscape graywater systems. Potentially could include a direct installation program and/or rebates for graywater systems that reuse shower and sink water.		\$1 million	< 1,000	\$3,300	Low
Leak Repair Incentive: Provides financial incentivizes homeowners to repair leaks.		\$1 million	< 1,000	\$9,200	Low

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
New Development Model Ordinance: Encourages municipalities to adopt an ordinance for enhancing water efficiency standards in new developments. Components include submetering multi-family residences, onsite water reuse (rainwater, graywater, black water), and point-of use hot water heaters.		\$2 million	5,000	\$100	Medium
Stormwater - Agricultural Land Recharge: Flooding or recharge on South County agricultural parcels during the winter months.		\$10 million	1,000	\$1,000	Low
Stormwater - Rain Barrels: Provides rebates for the purchase of a rain barrels.		\$10 million	< 1,000	\$17,900	Low
Stormwater - Rain Gardens: Initiates a Valley Water rebate program to incentivize the construction of rain gardens in residential and commercial landscapes.		\$10 million	< 1,000	\$3,000	Low
Stormwater - San Jose: Constructs a stormwater infiltration system in San Jose. Assumes 5 acres of ponds. Potential partnership with City of San Jose.		\$3 million	1,000	\$100	Low
Stormwater – Saratoga #1: Constructs a stormwater infiltration system in Saratoga. Assumes 5 acres of ponds. Assumes easement rather than land purchase. Close to Stevens Creek Pipeline, so could also potentially be used as a percolation pond.		\$3 million	< 1,000	\$1,100	Low

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
<p>Pacheco Reservoir: Through a partnership with Pacheco Pass Water District, San Benito County Water District (SBCWD), and potentially other partners, Valley Water will enlarge Pacheco Reservoir from about 6,000 AF to about 140,000 AF and connect the reservoir to the San Felipe Division of the CVP. The primary water sources to fill the expanded reservoir would be natural inflows from the North and East Forks of Pacheco Creek. Supplemental flows to the expanded reservoir would arrive from Valley Water’s SBCWD’s share of contracted CVP pumped water from San Luis Reservoir. The project will be operated to provide water for fisheries downstream of the reservoir and increase in-county storage. Other potential benefits could include managing water quality impacts from low-point conditions in San Luis Reservoir and downstream flood protection. The project will also deliver water to up to eight south-of-Delta wildlife refuges in Merced County. Potentially significant environmental and cultural resource impacts.</p>	Master Plan Project	\$340 million	6,000	\$2,000	Medium
<p>Potable Reuse – Ford Pond: Constructs potable reuse facilities for 4,000 AFY of groundwater recharge capacity at/near Ford Ponds. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. The project would require agreements with the City of San Jose and may require moving existing water supply wells.</p>	Inactive	\$295 million	3,000	\$2,800	Medium
<p>Potable Reuse – Injection Wells: Constructs potable reuse facilities for 15,000 AFY of groundwater injection capacity. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. The injection wells could be constructed in phases and be connected to the pipeline carrying purified water to the Los Gatos Ponds. The project would require agreements with the City of San Jose and reverse osmosis concentrate management. Injection well operations are more complex than recharge pond operations.</p>	Inactive	\$1.2 billion	12,000	\$3,100	High

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Potable Reuse - Los Gatos Ponds: Involves purifying water at an expanded Silicon Valley Advanced Water Purification Center in Alviso, pumping the water to Campbell, and using the purified water for groundwater recharge in the existing ponds along Los Gatos Creek. Potable reuse water is a high-quality, local drought-proof supply that is resistant to climate change impacts. Assumes up to 24,000 AFY of advanced treated recycled water would be available for groundwater recharge at existing recharge ponds in the Los Gatos Recharge System. Some of the outstanding issues with the project are reverse osmosis concentrate management and agreements with the City of San Jose or another wastewater provider.	Master Plan Project	\$1.2 billion	19,000	\$2,000	Medium
Refinery Recycled Water Exchange: Central Contra Costa Sanitary District (Central San) is a wastewater agency in Contra Costa County. It currently produces about 2,000 acre-feet per year (AFY) of recycled water, but has wastewater flows that could support more than 25,000 AFY of recycled water production. The conceptual program would involve delivering recycled water to two nearby refineries that are currently receiving about 22,000 AFY of CCWD Central Valley Project (CVP) water; in exchange Valley Water would receive some of CCWD's CVP water.	Active	TBD	11,000	TBD	TBD
Retailer System Leak Detection/Repair: Recent legislation requires retailers to complete annual water loss audits, which will then be used by the State to establish water loss standards. Staff will reconsider this alternative after the standards are developed.	Inactive	TBD	TBD	TBD	TBD
Saratoga Recharge: Constructs a new groundwater recharge facility in the West Valley, near the Stevens Creek pipeline. Would help optimize the use of existing supplies. Land availability and existing land uses limit potential project locations.	Inactive	\$50 million	1,000	\$1,300	Low

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
<p>Shasta Reservoir Expansion: A Feasibility Study and Environmental Impact Statement have been completed for a Shasta Reservoir Expansion. The United States Bureau of Reclamation concluded the project is technically feasible, and is conducting preliminary investigations. State law prohibits Prop 1 storage funding for the project and restricts funding for any studies. Staff will continue to monitor opportunities related to Shasta Reservoir Expansion.</p> <p>US Fish & Wildlife Service recommended against the project in 2014 because it would fail to protect endangered salmon in the Sacramento River. The State sued Westlands Water District for working on the EIS and planning studies. The judge has since ordered Westlands Water District to stop work and ruled that it violated state law for working on projects that would adversely affect the McCloud River. Westlands Water District has appealed the decision.</p>	Inactive	TBD	TBD	TBD	TBD
<p>Sites Reservoir: Establishes an agreement with the Sites JPA to build an off-stream reservoir (up to 1,800 TAF) north of the Delta that would collect flood flows from the Sacramento River and release them to meet water supply and environmental objectives. The project would be operated in conjunction with the SWP and CVP, which improves flexibility of the statewide water system but would be subject to operational complexity.</p>	Active	\$250 million	8,000	\$1,200	High

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Shallow Groundwater Reuse: A feasibility study for the recovery and beneficial use of shallow groundwater was completed in 2009. Although potential sites for shallow groundwater reuse were identified, staff has identified several concerns. These concerns include water quality, sustainable yields, and lack of infrastructure for storage and conveyance. In addition, several reuse sites are in areas where recycled water is already delivered for non-potable use. Valley Water will new opportunities as they arise.	Inactive	TBD	TBD	TBD	TBD
South County Recharge – Butterfield Channel: Extends the Madrone Pipeline from Madrone Channel to Morgan Hill’s Butterfield Channel and Pond near Main Street. Would help optimize the use of existing supplies. Would need to be operated in conjunction with the City’s stormwater operations.	Master Plan Project	\$10 million	2,000	\$400	Low
South County Recharge - San Pedro Ponds: Implements a physical or institutional alternative to enable the ponds to be operated at full capacity without interfering with existing septic systems in the vicinity.	Active	\$10 million	1,000	\$400	TBD
South County Water Treatment Plant: Provides in-lieu groundwater recharge by delivering treated surface water to the Cities of Morgan Hill and Gilroy. Would require a connection to the Santa Clara Conduit or other raw water pipeline and pipelines from the plant to the cities' distribution systems. Valley Water owns two properties that could potentially be used for this project. The South County recharge projects provide similar benefits at significantly lower cost.	Active	\$112 million	2,000	\$2,400	TBD

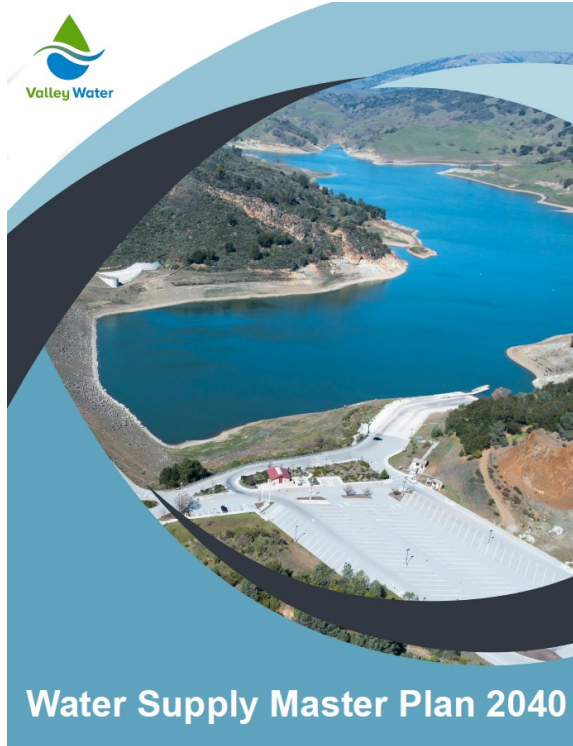
Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Stormwater – Saratoga #2: Constructs a stormwater infiltration system on a parcel in Saratoga. Assumes 5 acres of ponds. Currently zoned as ag land; assumes land purchase. About 0.6 miles from the Stevens Creek Pipeline. The cost-effectiveness is low due to the land purchase requirement. Other stormwater projects are included in the “No Regrets” package.	Inactive	\$50 million	<1,000	\$10,700	TBD
Temperance Flat Reservoir: Temperance Flat Reservoir would be located upstream of Friant Dam on the San Joaquin River. Staff’s current analysis is that any water supply benefits to Valley Water from the project would be indirect, largely manifested by lowered requirements for Delta pumping for delivery to the San Joaquin Exchange contractors at the Delta-Mendota Pool.	Inactive	TBD	TBD	TBD	TBD
Transfer-Bethany Pipeline: The pipeline will connect Contra Costa Water District’s (CCWD’s) system to Bethany Reservoir, which serves the South Bay Aqueduct and the California Aqueduct. This project will enable Valley Water to receive Delta surplus supplies and some contract supplies through CCWD’s system in the Delta instead of (or in addition to) the CVP and SWP pumps in the southern Delta. This will increase reliability and flexibility for Valley Water. The project would also facilitate other potential regional projects. Would provide an alternative to through-Delta conveyance of supplies from projects such as the Bay Area Brackish Water Treatment and Refinery Recycled Water Exchange projects. Also, it would facilitate conveyance of Delta surplus supplies or transfers from CCWD and East Bay Municipal Utility District. The pipeline is one element of the larger Los Vaqueros Reservoir Expansion Project, which is partnership between CCWD, Valley Water, and agencies in the Bay Area and Central Valley. Would require funding and operating agreements with multiple parties, likely including formation of a Joint Powers Authority.	Master Plan Project	\$78 million	3,500	\$700	Medium

Project	Project Status ¹	District Lifecycle Cost (Present Value, 2018) ²	Average Annual Yield (AFY) ³	Cost/AF	Relative Risk ⁴
Uvas Pipeline: Captures excess water (e.g., water that would spill) from Uvas Reservoir and diverts the water to Church Ponds and a 25 acre-foot pond near Highland Avenue. The new pond would be adjacent to and connected by a pipe to West Branch Llagas Creek. The South County recharge projects provide similar or better yields at a lower cost.	Inactive	\$90 million	1,000	\$2,600	TBD
Uvas Reservoir Expansion: Would expand Uvas Reservoir by about 5,100 AF to 15,000 AF, reducing reservoir spills. Project would be located on Uvas Creek, which currently provides good steelhead habitat. Other water storage options under consideration provide better yield for the cost.	Inactive	\$330 million	1,000	\$20,500	TBD
Water Contract Purchase: Purchase 20,000 AF of SWP Table A contract supply from other SWP agencies. Would increase reliance on the Delta and be subject to willing sellers' availability. Could also include Long-Term Transfers being considered along with California WaterFix.	Active	\$365 million	12,000	\$800	Medium



Valley Water

Clean Water • Healthy Environment • Flood Protection



A Refresh: Water Supply Master Plan 2040 Monitoring and Assessment Program

Master Plan Purpose

Articulate Valley Water's:

- Water supply level of service goal
- "Ensure Sustainability" investment strategy
- Portfolio of projects to ensure water reliability
- Monitoring and Assessment Program to avoid over or under investments



Water Supply Reliability

Level of Service Goal

Develop water supplies designed to meet 100 percent of demands identified in the Water Supply Master Plan in non-drought years and at least 80 percent of average annual water demand in drought years.

(BAO Strategy 2.4)

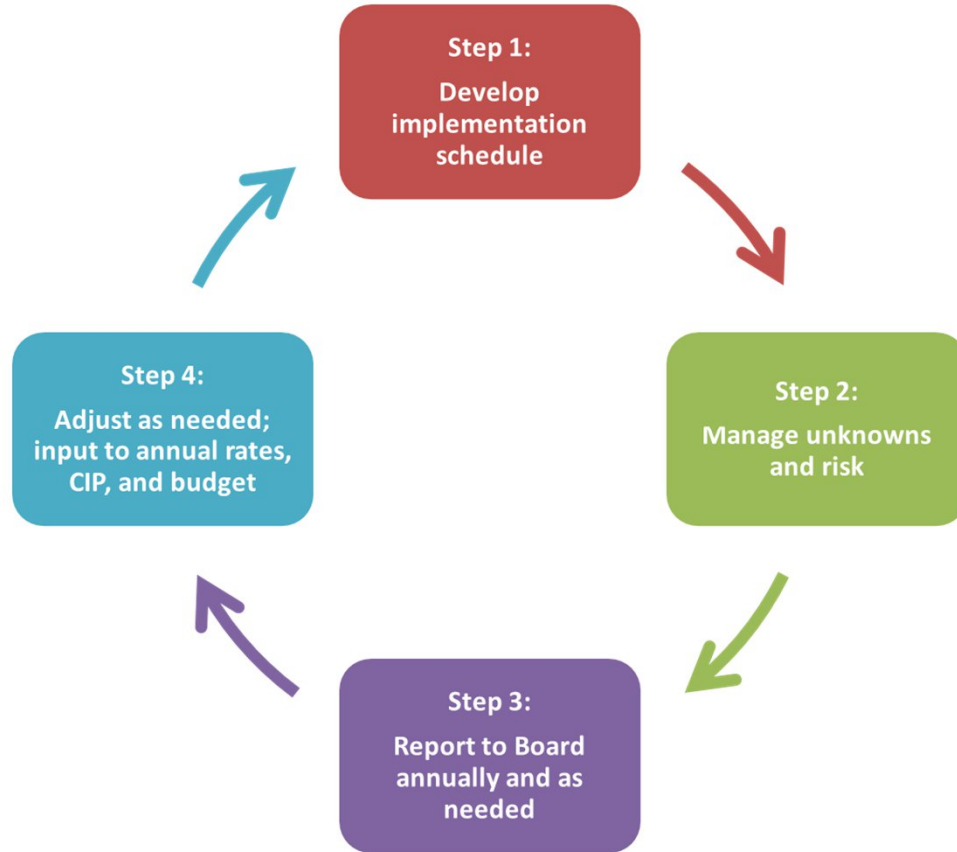


Ensure Sustainability Strategy

- Protect existing assets
- Leverage past investments
- Meet new demands with drought-resilient supplies
- Develop local and regional supplies to reduce reliance on the Delta
- Increase flexibility
- Increase resiliency to climate change

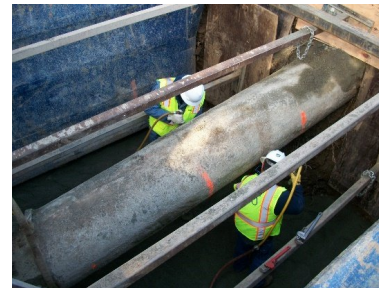


Monitoring and Assessment Program (MAP)



Monitoring and Assessment Program

- Review existing system
 - Local reservoirs
 - Imported water
 - South Bay Aqueduct capacity
- Review projects identified in Master Plan
- Develop new water demand forecasts



Next Steps

- Evaluate benefits of Master Plan projects with the new demands and water supply system updates
- Assess what level of investment is needed to meet the level of service goal
- Present the MAP report to the Board in fall 2020



Santa Clara Valley Water District

File No.: 20-0818

Agenda Date: 9/29/2020

Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Agricultural Water Use Baseline Study.

RECOMMENDATION:

This is an information only item and no action is required.

SUMMARY:

At the April 26, 2019, Water Conservation and Demand Management Board Advisory Committee (WCDM) meeting, the Committee discussed the need to better understand the conservation potential in the agriculture sector, including potentially developing a baseline study of agricultural water use. Once staff developed a summary of proposed components of a Santa Clara Valley Water District (Valley Water) Agriculture Water Use Baseline Study (Study), staff presented the proposal at the June 18, 2019 WCDM meeting and provided a verbal update to the Agricultural Water Advisory Committee on July 1, 2019. Since that presentation, staff completed a competitive bidding process in which Valley Water contracted with Sherwood Design Engineers (Sherwood) to complete the Study.

Background

The goal of the Study is to better understand current agricultural water use practices and identify opportunities for additional water conservation. While Sherwood will develop and complete the Study, staff will also coordinate Sherwood's study with the local Farm Bureau and Santa Clara County staff.

Study components that Sherwood will address include:

- 1) Types of crops and associated acres of crops in the County
- 2) Types of irrigation systems used, by crop type
- 3) A survey of crop rotation and fallowing practices in the County that evaluates:
 - a. Trends by crop type
 - b. Geographical trends related to crop rotation and fallowing practices within the County (e.g., north vs. south, foothills vs. valley, position relative to a creek)
- 4) Water use by crop type and irrigation method, including comparing to crops' water budgets

- 5) Geographical trends/distribution of agricultural practices and crop types in the County (e.g., north vs. south, foothills vs. valley, position relative to a creek)
- 6) Agricultural producers' water use knowledge and mindsets regarding:
 - a. Concerns related to water supply
 - b. Water use and water conservation, including what motivates their irrigation method choices
 - c. Valley Water's conservation programs
- 7) Factors that determine farmer crop choice
- 8) Recommendation of projects or programs to increase agricultural water use efficiency.

The contract was awarded to Sherwood in June 2020. Since then, staff has met with the Sherwood to determine roles, stakeholders, and data requirements. Staff is currently gathering data and reports needed for Sherwood to complete the Study from internal and external stakeholders.

Next Steps

Sherwood and Valley Water staff will continue coordinating with the local Farm Bureau and Santa Clara County staff throughout the process to ensure we use the best approach and information for completing the Study. Once staff provides all the preliminary data to Sherwood, Sherwood will perform a preliminary analysis to help shape the questions and data needed from agricultural water users. Staff is working with Sherwood to refine a project timeline and approach given complications surrounding COVID-19 Social Distancing restrictions that could delay certain data collection efforts. Staff will update the Committee as the Study progresses.

ATTACHMENTS:

None

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257



Santa Clara Valley Water District

File No.: 20-0819

Agenda Date: 9/29/2020

Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Collaboration with UC Water on Flood Managed Aquifer Recharge.

RECOMMENDATION:

This is an information only item and no action is required.

SUMMARY:

Valley Water is exploring a program of collaboration with researchers from the UC Water Security and Sustainability Research Initiative (UC Water), which focuses on strategic research to support water resources management and decision-making. The proposed Water Resource Innovation Partnership (WRIP) includes a multi-year collaboration on two topics of common interest: Flood-Managed Aquifer Recharge (Flood-MAR) Feasibility and Groundwater-Surface Water (GW-SW) Interaction. Flood-MAR and GW-SW interactions are topics that will help Valley Water sustainably manage groundwater and achieve Sustainable Groundwater Management Act management and reporting requirements. In particular, Valley Water staff has been working with UC Water researchers to develop a scope of work that would help to advance data, tools, and knowledge needed by Valley Water. UC Water is in a unique position to support Valley Water efforts to explore Flood-MAR and GW-SW Interaction due to their expertise, research, and involvement on these issues as they develop at both the local and statewide level.

The initial two years of the collaboration would focus on Flood-MAR planning and implementation in Santa Clara County. DWR generally considers Flood-MAR to be use of "...high flows from, or in anticipation of, rainfall or snowmelt, for managed aquifer recharge on agricultural lands, working landscapes, and natural managed lands." Flood-MAR is a decentralized approach to groundwater recharge that would recharge local stormwater at sites distributed across Santa Clara County. Unlike our centralized managed aquifer recharge program, Flood-MAR sites may be located on private or public lands that would not be owned by Valley Water.

Urbanization has made acquiring sufficiently sized new recharge lands in a location near our raw water distribution system more expensive and difficult. In addition, climate change is expected to increase storm intensity in Santa Clara County, making traditional approaches to water capture (i.e., dams and reservoirs) more difficult. The distributed nature of Flood-MAR, if successful, could help increase stormwater capture and recharge while minimizing floodwaters flowing to the Bay or creating nuisance flooding.

Valley Water staff have been working with UC Water researchers to develop a Flood-MAR work plan that achieves mutual goals of furthering water security and sustainability. As currently envisioned, the Flood-MAR collaboration aims to:

- 1) Evaluate options for implementing Flood-MAR projects in Santa Clara County, including assessing technical approaches, regulatory requirements, and incentive programs.
- 2) Develop GIS-based tools to quantify Flood-MAR suitability for the Valley Water region, including allowing assessment of properties and processes that influence Flood-MAR performance.

Flood-MAR is a project within the Board-approved Water Supply Master Plan 2040 "No Regrets Package" of stormwater capture and water conservation project. Collaborating with UC Water on Flood-MAR will support Valley Water's efforts to better understand the opportunities and challenges associated with implementing a Flood-MAR program in Santa Clara County.

ATTACHMENTS:

Attachment 1: Powerpoint presentation

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257

Flood Managed Aquifer Recharge Study in Santa Clara County

Presented by: Samantha Greene, Senior Water Resources Specialist
Water Supply Planning & Conservation



Water Supply “Ensure Sustainability” Strategy



1.
Secure
existing
supplies and
infrastructure

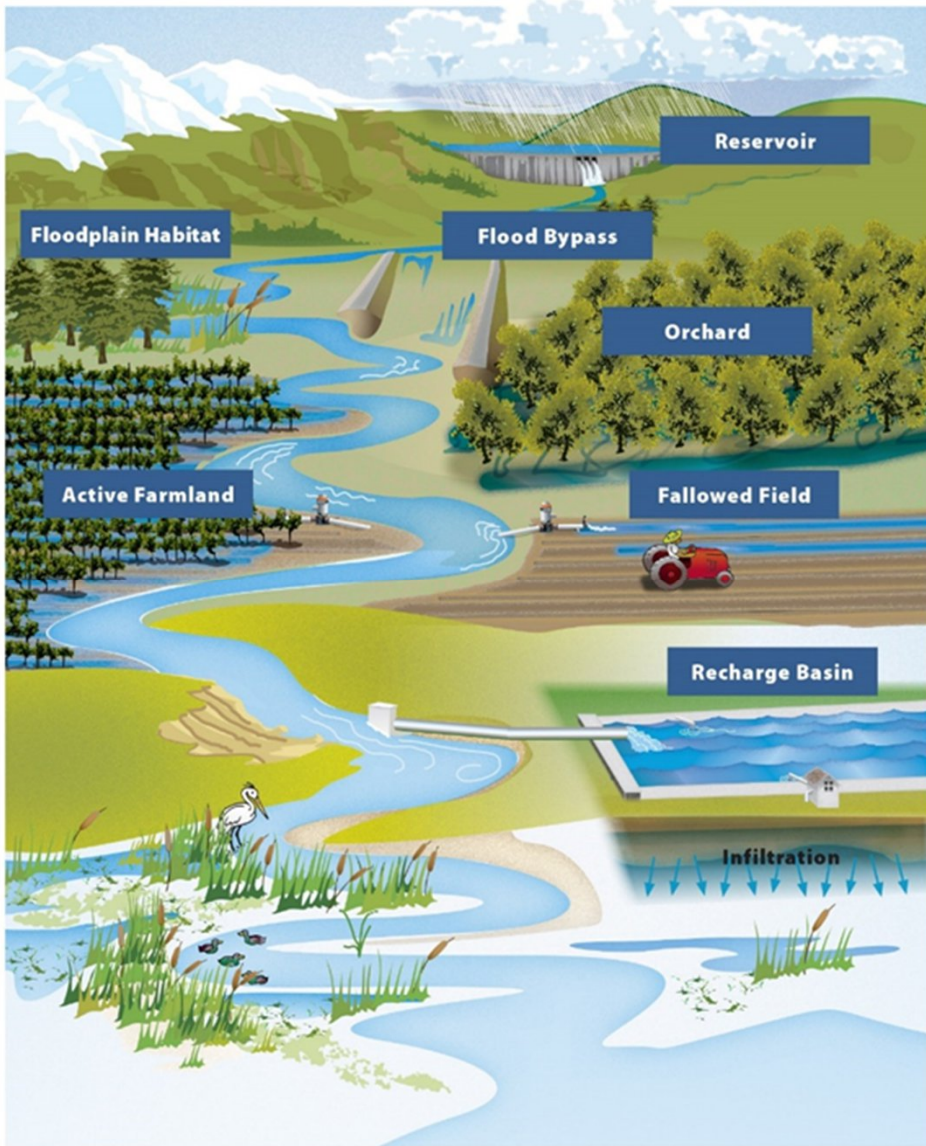
2.
Expand
conservation
and reuse

3.
Optimize the
system

- “No Regrets” Package of conservation and stormwater capture projects
 - Includes Flood Managed Aquifer Recharge (Flood MAR)
- Flood MAR “secures” recharge on open lands, expands local stormwater capture and use

Flood MAR

- Using high flows from, or in anticipation of, rainfall or snowmelt, for managed aquifer recharge on open space.
- Many components/options:
 - Site selection
 - Stormwater collection/routing
 - Improving water quality
 - Multiple infiltration methods
 - Incentives for stakeholders
 - Tools for accounting

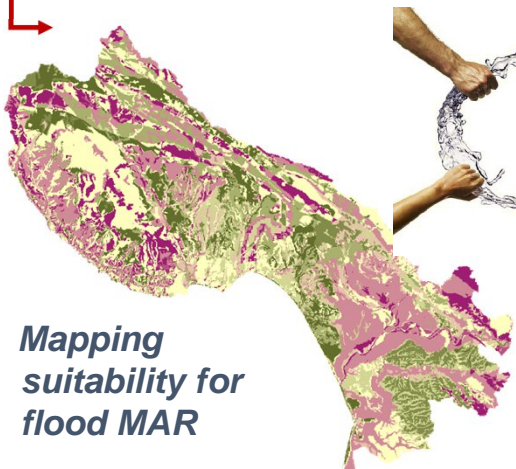


DWR (2018)

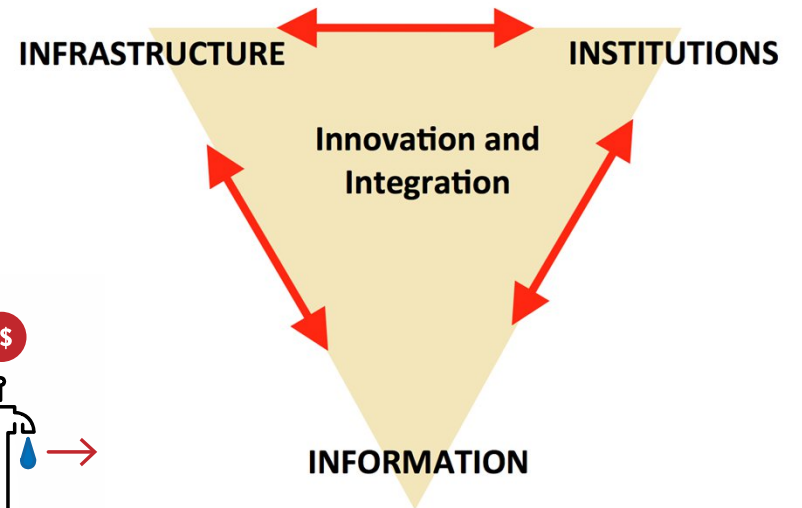
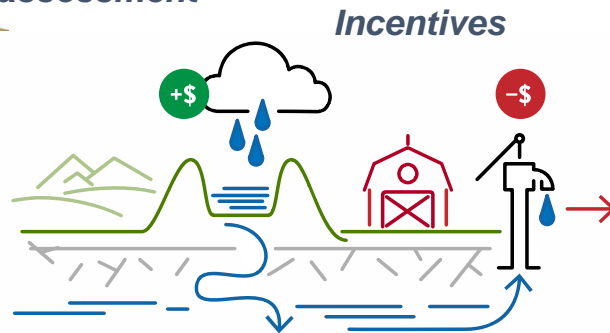
Four main UC Water components:

- Headwater Management
- Groundwater Resources
- Intelligent Water Systems
- Water-Energy Nexus

- UC Water: An alliance of faculty, researchers, and students from multiple UC campuses, seeking innovative solutions to some of California's most pressing water resource management challenges.



Institutional assessment



Water Resources Innovation Partnership

- Evaluate options and challenges for a Flood MAR program in Santa Clara County
 - Technical implementation
 - Institutional considerations
 - Incentives for program participation
- Develop GIS-based tools to quantify Flood MAR suitability for the Valley Water service area



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Santa Clara Valley Water District

File No.: 20-0820

Agenda Date: 9/29/2020

Item No.: 4.5.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Sustainable Groundwater Management Act (SGMA) Update.

RECOMMENDATION:

This is an information only item and no action is required.

SUMMARY:

SGMA requires that local agencies managing basins ranked as medium- or high-priority submit a groundwater sustainability plan (GSPs) or prescribed Alternative to a GSP (Alternative) by the applicable statutory deadline.

The Santa Clara Valley Water District (Valley Water) submitted the 2016 Groundwater Management Plan (GWMP) for the Santa Clara and Llagas Subbasins to the Department of Water Resources (DWR) as an Alternative in December 2016. In July 2019, DWR approved the Alternative, confirming it satisfies SGMA objectives for sustainable groundwater management in both basins.

The DWR staff report for each basin includes recommended actions to facilitate DWR evaluation and improve the Alternative for the next five-year update due January 1, 2022. These recommended actions are summarized below:

1. Identify groundwater dependent ecosystems.
2. Incorporate climate change and expected population growth into the water budget over the 50-year planning and implementation horizon.
3. Create separate outcome measures for water quality in the Santa Clara and Llagas subbasins.
4. Develop specific seawater intrusion outcome measures in the Santa Clara Subbasin.
5. Clarify how meeting outcome measures relates to the avoidance of undesirable results and provide additional clarification and metrics, if needed, to determine what effects represent undesirable results.

In addition to the DWR recommended actions, the 2016 GWMP outlines several recommendations, which include the following:

1. Identify gaps and redundancies in monitoring networks.
2. Identify and implement groundwater modeling improvements.
3. Re-evaluate operational groundwater storage capacity.

4. Improve understanding of groundwater/surface water interaction.

Staff are conducting various technical analyses needed to incorporate both the DWR and 2016 GWMP recommendations into the next five-year update to the Alternative. As this work progresses further, staff will update the Water Conservation and Demand Management Committee and engage basin stakeholders through email updates and public meetings. A public review draft of the updated Alternative is expected to be available in late summer 2021 to solicit public input prior to consideration by the Board of Directors.

Valley Water will continue implementing its comprehensive Groundwater Management Plan, provide annual SGMA reports to DWR by April 1, and submit the updated Alternative to DWR by January 1, 2022.

ATTACHMENTS:

Attachment 1: PowerPoint

UNCLASSIFIED MANAGER:

Aaron Baker, 408-630-2135



Sustainable Groundwater Management Act (SGMA) Update

Presented by: Jason Gurdak

Water Conservation and Demand Management Committee September 2020



Background

- May 2016: Valley Water became the Groundwater Sustainability Agency (GSA) for the Santa Clara and Llagas subbasins
- December 2016: Groundwater Management Plan submitted as an Alternative to a Groundwater Sustainability Plan (Alternative)
- July 2019: Dept. of Water Resources (DWR) approved Valley Water's Alternative
- January 1, 2022: 5-year update for the Alternative due to DWR

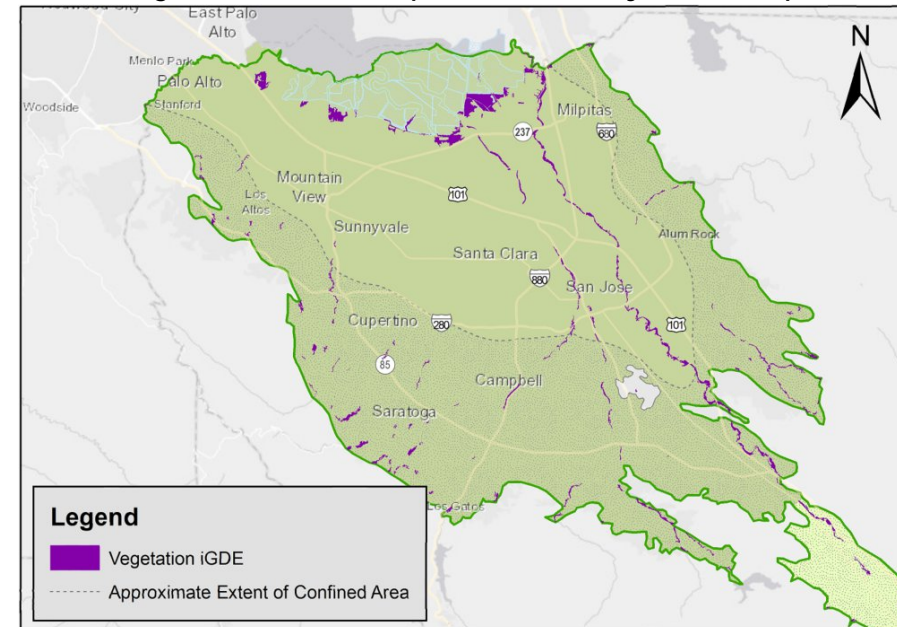


2021 GWMP – DWR Recommendations

3

1. Identify groundwater dependent ecosystems
2. Project water budget under climate change over 50-year horizon
3. Separate water quality outcome measures for two subbasins
4. Clarify outcome measures related to avoidance of undesirable results
5. Develop seawater intrusion outcome measure for Santa Clara Subbasin

DWR groundwater dependent ecosystem map



2021 GWMP – Other Updates

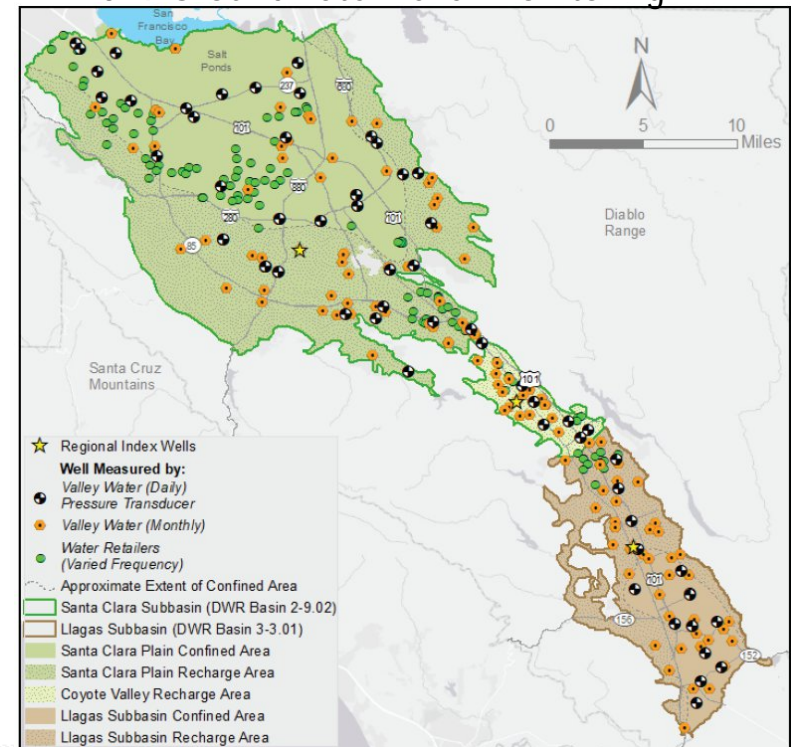
A. Major Updates (2016 GWMP Recommendations)

1. Identify gaps and redundancies in monitoring networks
2. Identify and implement groundwater modeling improvements
3. Re-evaluate operational groundwater storage capacity
4. Improve understanding of groundwater/surface water interaction

B. Minor Updates

1. Update existing text, figures, and tables with new data (2010 – 2019)

2019 Groundwater Level Monitoring



Stakeholder Engagement & Key Deadlines

Stakeholder Engagement:

- Engage interested parties via:
 - Email/website updates
 - Water Conservation and Demand Management Committee Updates
 - Public meetings (spring/summer 2021)

Expected GWMP Release/Adoption Schedule:

- September 2021: Public draft of 2021 GWMP released
- November 2021: Board consideration of GWMP
- January 1, 2022: Deadline to submit updated Alternative to DWR



Valley Water

Clean Water • Healthy Environment • Flood Protection



Santa Clara Valley Water District

File No.: 20-0821

Agenda Date: 9/29/2020

Item No.: 4.6.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Water Demand Forecasting

RECOMMENDATION:

This is an information only item, no action is required.

SUMMARY:

In November 2019, the Santa Clara Valley Water District (Valley Water) Board of Directors (Board) adopted the Water Supply Master Plan 2040 (Master Plan), which sets a new level of service goal, defines an investment strategy, and recommends a suite of projects to achieve the investment strategy and level of service goal. To determine the level of new investments that may be needed to achieve our level of service goal through 2040, Valley Water uses a demand forecasting model. Valley Water developed the Master Plan demand forecasts in 2016 using the best available knowledge of how Santa Clara County would use water after the drought (i.e., drought rebound) and the best available housing and economic development data. Since 2016, significantly more is known about Santa Clara County's drought rebound, there is a longer water use dataset available, and new housing and economic development forecasts (e.g., Plan Bay Area). Through a competitive bid process, Valley Water contracted with Hazen and Sawyer (Consultant) to develop a new demand model that will provide new demand forecasts. The new demand model provides forecasted demands in 5-year increments out to 2045 to meet our current planning needs. Valley Water's recommended demand scenario forecasts 2040 demands to be approximately 335 thousand acre-feet (TAF). This memorandum summarizes the demand modeling purpose, results, and next steps.

Water Demand Model Development

The new demand model combines the latest science and data to forecast demands through 2045. A reliable water demand forecast helps determine what level of investment is necessary to meet Valley Water's level of service goal. The Master Plan defines Valley Water's level of service goal to be "to develop water supplies designed to meet at least 100 percent of average annual water demand during non-drought years and at least 80 percent of average annual water demand in drought years." The new demand forecasts will be used to complete the 2020 Urban Water Management Plan (UWMP) due in July 2021 and the Master Plan's Monitoring and Assessment Program (MAP) annual report that is provided to the Board each fall.

To develop the water demand model, Valley Water decided it would be best to use the expertise of a consultant that specializes on developing demand models. After a competitive bidding process, Valley Water contracted with Hazen and Sawyer (Consultant) to develop a new demand model. To

support the Consultant in developing the model, Valley Water collected monthly sectoral water use data from our retailers for 2000-2019 (although certain retailers only had data from 2011 or 2013) and groundwater pumping data for Valley Water’s independent pumpers (i.e., non-retailer well owners). In addition, the Consultant collected historic data on temperature, precipitation, water rates, water shortage restrictions, economic information, and housing information. The consultant collected historic data primarily from Valley Water, the US Census, Federal Reservoir, and California Department of Finance. Demand forecasts were developed using several forecasting variables, including housing information, median income, economic information, water rates, drought restrictions and weather projections from the Association of Bay Area Governments (ABAG), California Department of Finance (CDOF), and Prism (provides data on climate projections).

Demand Forecasts

The Demand Model can be used to evaluate different potential future scenarios by adjusting the forecasting variables. This supports Valley Water’s efforts in understanding the uncertainty related to water demand forecasts. Recommended demand forecasts for planning evaluations, such as the 2020 UWMP and the MAP, focus on using forecasting variable information from regional and state agencies, such as ABAG and CDOF (table 1). In addition, an important modeling assumption in forecasting water demand is related to defining a drought rebound. Currently, Valley Water experienced a small rebound in 2017 and then demands have remained relatively stable through 2018 and 2019. Therefore, the rebound has been relatively muted. Valley Water and the Consultant developed two demand scenarios to consider the range of drought rebounds that could be realistically achieved:

- 1) No further demand rebound beyond 2019
- 2) 50% rebound to pre-drought water use by 2025 and then no further rebound

Table 1. Forecasting variables used in the demand model

Forecasting Variable	Source
Water rates (by retailer and groundwater zone, inflation adjusted)	Valley Water
Drought Restrictions	Valley Water and retailers
Median income	US Census
Economic indices (e.g., unemployment)	Federal Reserve, Economic Cycle Research Institute (ECRI)
Housing density	Derived from US Census and CDOF
Persons per household	Derived from US Census and CDOF
Housing Units	ABAG
Sectoral employment	ABAG
Weather (temperature and precipitation)	Prism

The new demand forecasts include planned conservation goals of 99 thousand acre-feet (TAF) by 2030 and an additional 11 TAF by 2040. Valley Water is currently on target for meeting our 99 TAF of

conservation by 2030, with a current savings of approximately 74 TAF (starting datum at zero in 1992).

Assuming no further drought rebound (scenario 1), planned conservation is forecasted to mitigate increases in growth on water demands with a forecasted 2040 demand of approximately 290 TAF (figure 1). A 50% drought rebound (scenario 2) by 2025 translates to a 13% increase in demands (approximately 40 TAF) by 2025 and results in a 2040 demand forecast of approximately 335 TAF (figure 1). The 50% drought rebound scenario is likely a conservative but realistic outlook for demand rebound. In comparison, the Master Plan 2040 demand forecast developed in 2016 was 389 TAF. Therefore, improving Valley Water’s demand modeling to more accurately reflect expected drought rebound, integrating new water use data, and integrating new growth forecasts have reduced Valley Water’s forecasted demands by approximately 55-100 TAF (table 2).

Figure 1: Historic and Projected Water Use including Planned Conservation (rounded to nearest 5 TAF)

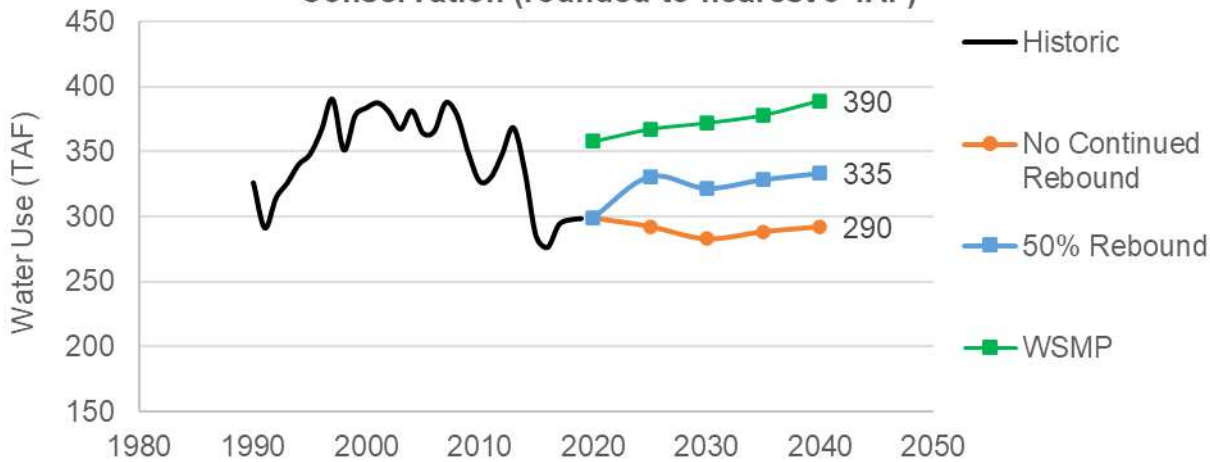


Table 2. Newly forecasted demands compared to the WSMP demands (rounded to the nearest 5 TAF), including planned conservation.

Demand Scenario	2020	2025	2030	2035	2040
50% Rebound	300	330	320	330	335
No Continued Rebound	300	295	285	290	290
WSMP	360	365	370	380	390
Difference¹	60	35-70	50-85	50-90	55-100

¹The low bookend is the difference between the 50% Rebound scenario and the WSMP scenario while the high bookend is the difference between the No Continued Rebound scenario and the WSMP scenario.

Next Steps

Valley Water will use the 50% rebound scenario for the MAP analysis that will be presented to the Board in fall 2020. In addition to MAP, this demand model will be used for developing the 2020 UWMP. Valley Water will use the demand model and forecast results for internal UWMP analyses and in discussions with retailers related to the UWMP.

ATTACHMENTS:

Attachment 1: Staff Presentation

UNCLASSIFIED MANAGER:

Jerry De La Piedra, 408-630-2257



Water Demand Forecasting

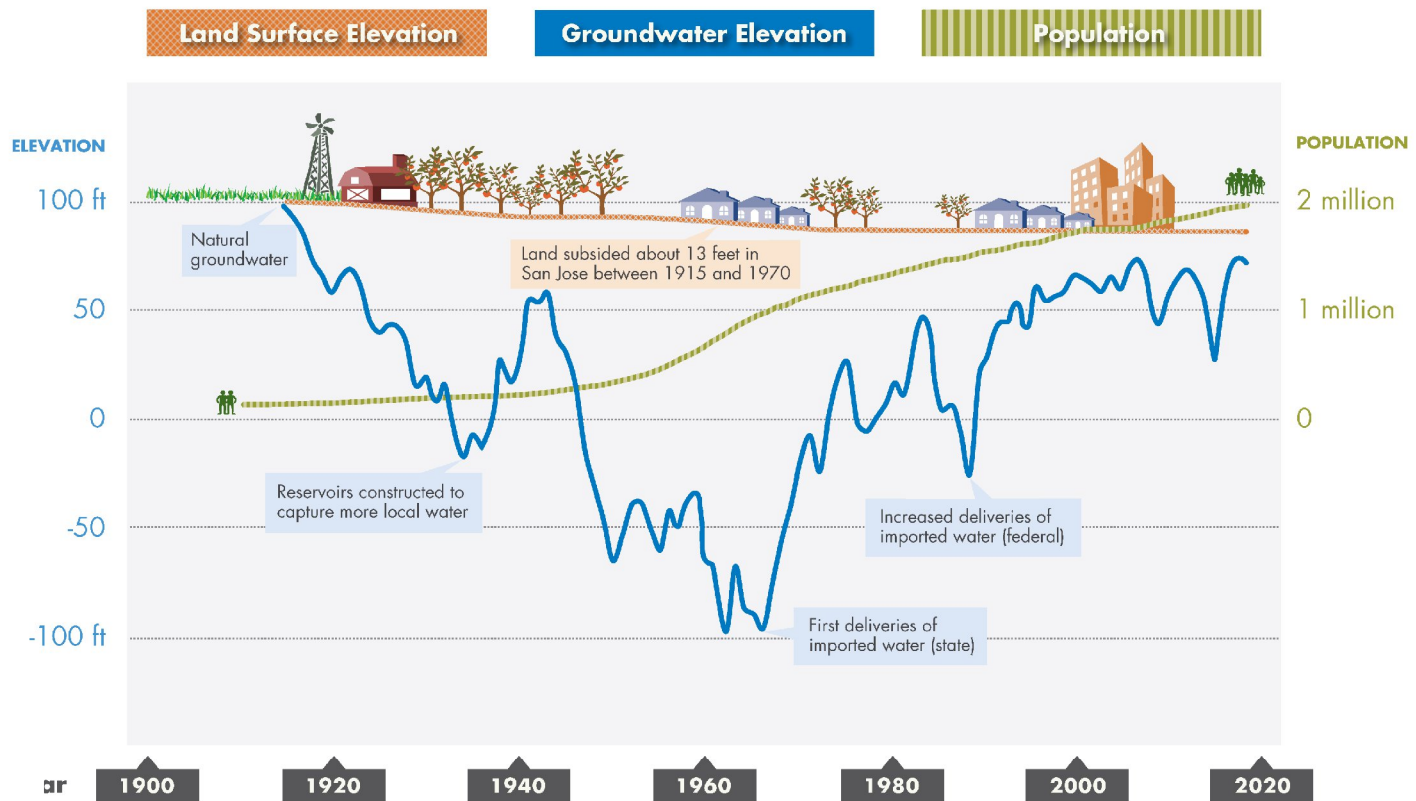
Samantha Greene, Ph.D., Water Supply Planning and Conservation Unit



Investing in Water Supply Reliability

SANTA CLARA COUNTY GROUNDWATER AT-A-GLANCE

a graphic representation not intended as a technical exhibit



Last updated February 1, 2019

Water Supply Reliability

3

Level of Service Goal

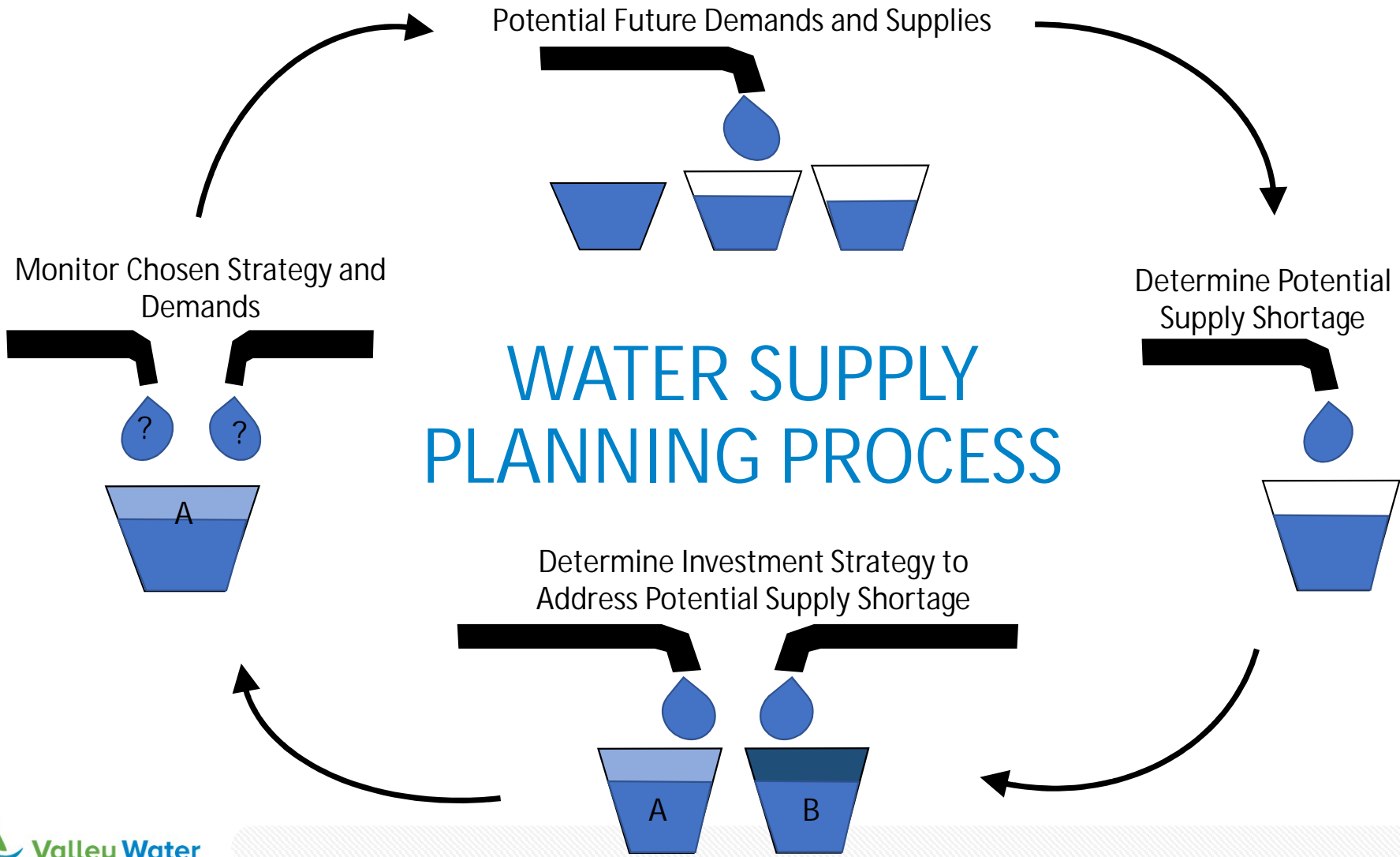
Develop water supplies designed to meet 100 percent of demands identified in the Water Supply Master Plan in non-drought years and at least 80 percent of average annual water demand in drought years.

(BAO Strategy 2.4)

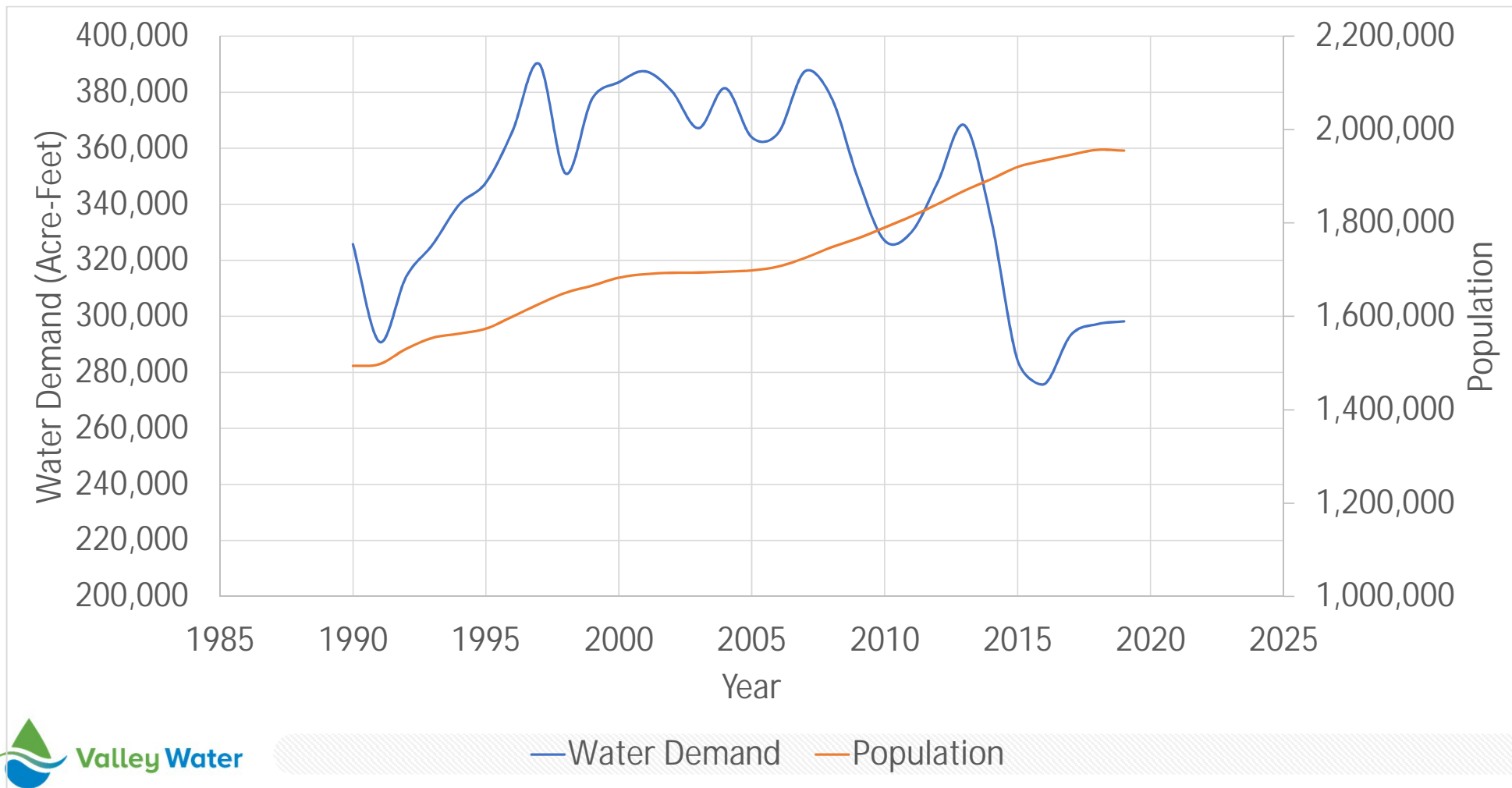


valleywater.org

WATER SUPPLY PLANNING PROCESS

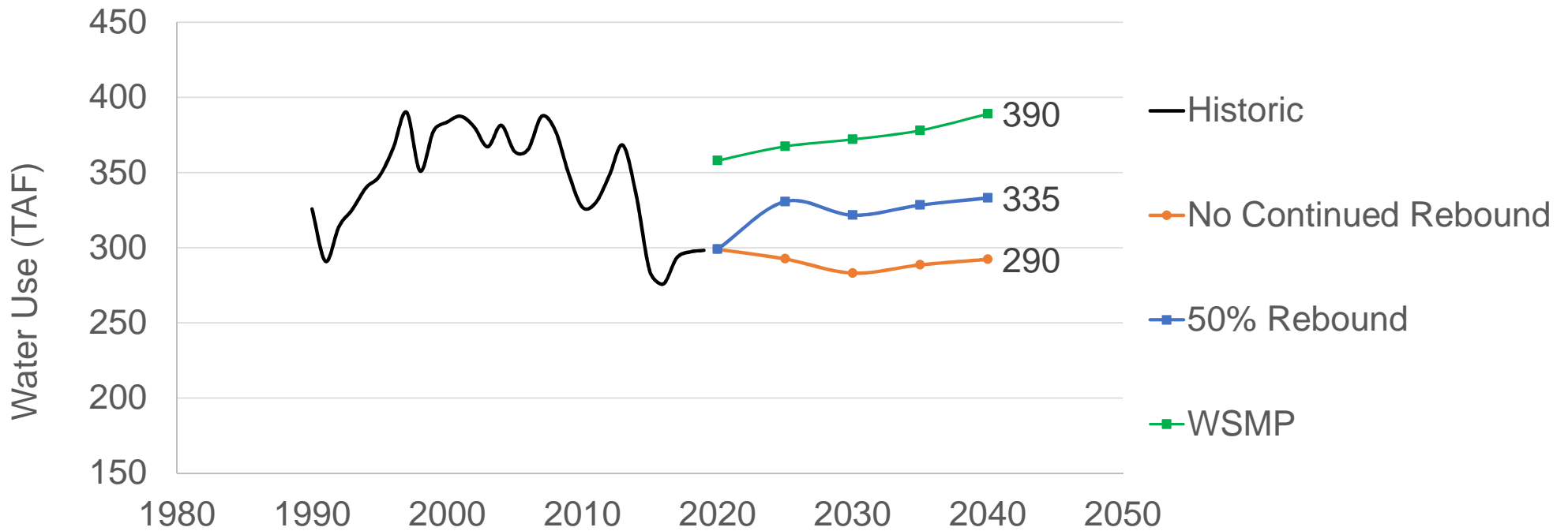


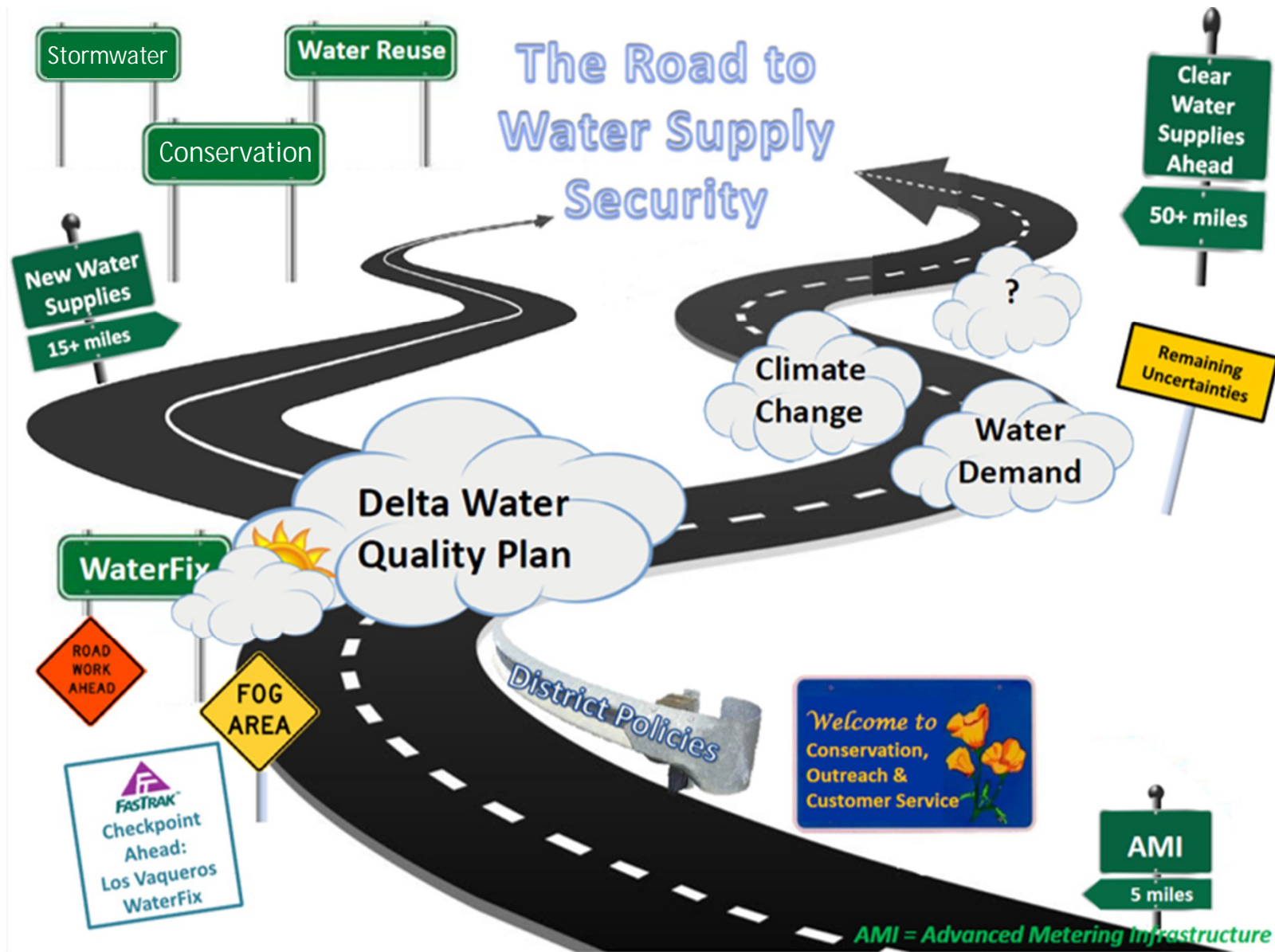
Historic Water Use and Population



—Water Demand —Population

Historic and Projected Water Use (Including Conservation)





Next Steps

- Use the 50% rebound scenario for the MAP analysis
- Use the demand model results for internal UWMP analyses and in discussions with retailers related to the UWMP
- Continue uncertainty analysis
- Provide annual updates each fall



Santa Clara Valley Water District

File No.: 20-0836

Agenda Date: 9/29/2020

Item No.: 4.7.

COMMITTEE AGENDA MEMORANDUM

Water Conservation and Demand Management

SUBJECT:

Review Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda.

RECOMMENDATION:

Review the Committee work plan to guide the committee's discussions regarding policy alternatives and implications for Board deliberation.

SUMMARY:

The attached Work Plan outlines the Board-approved topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendaized at each meeting as accomplishments are updated and to review additional work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:

The District Act provides for the creation of advisory boards, committees, or commissions by resolution to serve at the pleasure of the Board.

Accordingly, the Board has established Advisory Committees, which bring respective expertise and community interest, to advise the Board, when requested, in a capacity as defined: prepare Board policy alternatives and provide comment on activities in the implementation of the District's mission for Board consideration. In keeping with the Board's broader focus, Advisory Committees will not direct the implementation of District programs and projects, other than to receive information and provide comment.

Further, in accordance with Governance Process Policy-3, when requested by the Board, the Advisory Committees may help the Board produce the link between the District and the public through information sharing to the communities they represent.

ATTACHMENTS:

Attachment 1: WCADM Committee 2020 Work Plan

File No.: 20-0836

Agenda Date: 9/29/2020
Item No.: 4.7.

UNCLASSIFIED MANAGER:
Michele King, 408-630-2711

2020 Work Plan: Water Conservation and Demand Management Committee

Update: September 2020

The annual work plan establishes a framework for committee discussion and action during the annual meeting schedule. The committee work plan is a dynamic document, subject to change as external and internal issues impacting the District occur and are recommended for committee discussion. Subsequently, an annual committee accomplishments report is developed based on the work plan and presented to the District Board of Directors.

ITEM	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHMENT DATE AND OUTCOME
1	Water Conservation Strategic Plan.	9-29-2020	Discussion/Action Item	
2	Water Supply Master Plan 2040 Monitoring and Assessment Program	9-29-2020	Discussion/Action Item	
3	Agricultural Water Use Baseline Study	9-29-2020	Discussion/Action Item	
4	Collaboration with UC Water on Flood Managed Aquifer Recharge	9-29-2020	Discussion/Action Item	
5	Sustainable Groundwater Management Act (SGMA) Update	9-29-2020	Discussion/Action Item	
6	Water Demand Forecasting	9-29-2020	Discussion/Action Item	
7	Review of Water Conservation and Demand Management Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda	9-29-2020	Discussion/Action Item	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

Attachment 1
Page 1 of 1

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