December 29, 2023

MEETING NOTICE & REQUEST FOR RSVP

TO: AGRICULTURAL WATER ADVISORY COMMITTEE

Jurisdiction	Representative	Representative
District 1	Erin Gil	Mitchell Mariani
District 2	James Provenzano	
District 4	Sheila Barry	Brent Bonino
District 5	Jan F. Garrod	Trevor Garrod
District 6	Tim Chiala	Robert Long
Loma Prieta Resource Conservation District	Peter Van Dyke	
Santa Clara County Farm Bureau	Dhruv Khanna	

The regular meeting of the Agricultural Water Advisory Committee is scheduled to be held on **Monday, January 8, 2024, at 1:30 p.m.,** at Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose, CA 95118.

Enclosed are the meeting agenda and corresponding materials. Please bring this packet with you to the meeting. Additional copies of this meeting packet are available on our new website at https://www.valleywater.org/how-we-operate/committees/board-advisory-committees.

A majority of the appointed membership is required to constitute a quorum, which is fifty percent plus one. A quorum for this meeting must be confirmed at least 48 hours prior to the scheduled meeting date or it will be canceled.

Further, a quorum must be present on the day of the scheduled meeting to call the meeting to order and take action on agenda items.

Members with two or more consecutive unexcused absences will be subject to rescinded membership.

Please confirm your attendance no later than **12:00 p.m., Thursday, January 4, 2024,** by contacting Nicole Merritt at 1-408-630-3262, or nmerritt@valleywater.org.

Enclosures

Agricultural Water Advisory Committee Meeting

Public and Non-presenting staff may Join Zoom Meeting:
https://valleywater.zoom.us/j/98850905996

Meeting ID: 988 5090 5996
One tap mobile
+16699009128,,98850905996# US (San Jose)

Dial by your location
+1 669 900 9128 US (San Jose)

Meeting ID: 988 5090 5996

Santa Clara Valley Water District
Agricultural Water Advisory Committee Meeting

Headquarters Building Boardroom
5750 Almaden Expressway
San Jose CA 95118

REGULAR MEETING
AGENDA

Monday, January 8, 2024
1:30 PM

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

COMMITTEE:
Jan Garrod, Chair
Peter Van Dyke, Vice Chair

BOARD REPRESENTATIVES:
Director Jim Beall
Director Richard P. Santos
Director John L. Varela

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.

Vincent Gin
Darin Taylor, (Staff Liaisons)

Nicole Merritt (COB Liaison)
Assistant Deputy Clerk II
nmerritt@valleywater.org
1-408-630-3262

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
Agricultural Water Advisory Committee

REGULAR MEETING
AGENDA

Monday, January 8, 2024	**1:30 PM**	**Headquarters Building Boardroom** **5750 Almaden Expressway** **San Jose CA 95118**

IMPORTANT NOTICES AND PARTICIPATION INSTRUCTIONS

Santa Clara Valley Water District (Valley Water) Board of Directors/Board Committee meetings are held as a "hybrid" meetings, conducted in-person as well as by telecommunication, and is compliant with the provisions of the Ralph M. Brown Act.

To maximize public safety while still maintaining transparency and public access, members of the public have an option to participate by teleconference/video conference or attend in-person. To observe and participate in the meeting by teleconference/video conference, please see the meeting link located at the top of the agenda. If attending in-person, you are required to comply with Ordinance 22-03 - AN ORDINANCE OF THE SANTA CLARA VALLEY WATER DISTRICT SPECIFYING RULES OF DECORUM FOR PARTICIPATION IN BOARD AND COMMITTEE MEETINGS located at https://s3.us-west-2.amazonaws.com/valleywater.org.if-us-west-2/f2-live/s3fs-public/Ord.pdf

In accordance with the requirements of Gov. Code Section 54954.3(a), members of the public wishing to address the Board/Committee during public comment or on any item listed on the agenda, may do so by filling out a Speaker Card and submitting it to the Clerk or using the "Raise Hand" tool located in the Zoom meeting application to identify yourself in order to speak, at the time the item is called. Speakers will be acknowledged by the Board/Committee Chair in the order requests are received and granted speaking access to address the Board.

- Members of the Public may test their connection to Zoom Meetings at: https://zoom.us/test
- Members of the Public are encouraged to review our overview on joining Valley Water Board Meetings at: https://www.youtube.com/watch?v=TojJpYCxXm0

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 Board of Directors/Board 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.

Under the Brown Act, members of the public are not required to provide identifying information in order to attend public meetings. Through the link below, the Zoom webinar program requests entry of a name and email address, and Valley Water is unable to modify this requirement. Members of the public not wishing to provide such identifying information are encouraged to enter "Anonymous" or some other reference under name and to enter a fictional email address (e.g., attendee@valleywater.org) in lieu of their actual address. Inputting such values will not impact your ability to access the meeting through Zoom.

Join Zoom Meeting:
https://valleywater.zoom.us/j/98850905996
Meeting ID: 988 5090 5996
Join by Phone:
1 (669) 900-9128, 988 5090 5996#

1. CALL TO ORDER:

1.1. 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 Board/Committee on any item not listed on the agenda may do so by filling out a Speaker Card and submitting it to the Clerk or using the "Raise Hand" tool located in the Zoom meeting application to identify yourself to speak. Speakers will be acknowledged by the Board/ Committee Chair in the order requests are received and granted speaking access to address the Board/Committee. Speakers' comments should be limited to three minutes or as set by the Chair. The law does not permit Board/Committee action on, or extended discussion of, any item not on the agenda except under special circumstances. If Board/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 Board/Committee may take action on any item of business appearing on the posted agenda.

3. APPROVAL OF MINUTES

3.1. Approval of Minutes. 23-1259

Recommendation: Approve the October 2, 2023, Meeting Minutes.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: Attachment 1: 10022023 Ag Wtr DRAFT Mins

Est. Staff Time: 5 Minutes

4. REGULAR AGENDA:

4.1. Election of Chair and Vice Chair. 23-1269

Recommendation: Elect 2024 Chair and Vice Chair.

Manager: Candice Kwok-Smith, 408-630-3193

Est. Staff Time: 5 Minutes

4.2. Review and Approve 2023 Annual Accomplishments Report for Presentation to the Board (Committee Chair). 23-1270

Recommendation:

A. Approve the 2023 Accomplishments Report for presentation to the Board; and
B. Provide comments to the Committee Chair to share with the Board as part of the Accomplishments Report presentation pertaining to the purpose, structure, and function of the Committee.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: Attachment 1: AWAC 2023 Accomplishments Report

Est. Staff Time: 5 Minutes

4.3. Review and Provide Comment to the Board on Staff's Preliminary Fiscal Year 2024 - 2025 Groundwater Production Charges. 23-1078

Recommendation: Review staff's preliminary Fiscal Year 2024 - 2025 Groundwater Production Charges and provide comment to the Board as appropriate.

Manager: Darin Taylor, 408-630-3068

Attachments: Attachment 1: PowerPoint Presentation 12-28

Est. Staff Time: 20 Mins

4.4. Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050. 23-1271

Recommendation: Provide feedback on the development of Water Supply Master Plan 2050.

Manager: Kirsten Struve, 408-630-3138

Attachments: Attachment 1: Model Approach and Development
Attachment 2: WSMP Project Description
Attachment 3: PowerPoint Presentation

Est. Staff Time: 15 Minutes

4.5. One Water Plan Upper Pajaro Watershed Plan Priority Actions. 23-1171

Recommendation:

A. Receive information about development of the One Water Upper Pajaro Watershed Plan.
B. Review and provide input on One Water Upper Pajaro Watershed Plan Priority Actions.

Manager: Lisa Bankosh, 408-630-2618

Attachments: Attachment 1: Upper Pajaro Watershed Priority Actions List
Attachment 2: PowerPoint Presentation

Est. Staff Time: 15 Minutes

4.6. Review Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests; and the Committee's Next Meeting Agenda. 23-1272

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

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: Attachment 1: AWAC 2024 Work Plan

Est. Staff Time: 5 Minutes

5. INFORMATION ITEM:

5.1. Standing Items Report. 23-1274

Recommendation: Standing Items Report
This item allows the Agricultural Water Advisory Committee to receive verbal or written updates and discuss the Board's Fiscal Year 2023-2024 Work Plan Strategies. These items are generally informational; however, the Committee may request additional information and/or provide collective input to the assigned Board Committee.

Manager: Candice Kwok-Smith, 408-630-3193

Attachments: Attachment 1: Board Work Plan Standing Items Report

Est. Staff Time: 5 Minutes

6. 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.

7. REPORTS:

7.1. Director's Report

7.2. Manager's Report

7.3. Committee Member Report

7.4. Information Links:
https://www.valleywater.org/how-we-operate/committees/board-committees
•Board Policy and Planning Committee (BPPC)
•Environmental Creek Cleanup Committee (Formerly Homeless Encampment Committee)
•Water Storage Exploratory Committee (WSEC)

https://www.valleywater.org/how-we-operate/committees/board-advisory-committees
•Water Conservation and Demand Management Committee (WCaDMC)

https://www.valleywater.org/your-water/water-supply-planning/monthly-water-tracker
•Water Tracker:

8. ADJOURN:

8.1. Adjourn to Special Meeting at 1:30 p.m., on Monday, April 8, 2024.

Santa Clara Valley Water District

File No.: 23-1259

Agenda Date: 1/8/2024
Item No.: 3.1.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Approval of Minutes.

RECOMMENDATION:
Approve the October 2, 2023, 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 meetings.

ENVIRONMENTAL JUSTICE IMPACT:
There are no environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: 10022023, Ag Water Draft Meeting Mins.

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

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AGRICULTURAL WATER ADVISORY COMMITTEE MEETING

DRAFT MINUTES

MONDAY, OCTOBER 2, 2023

A regular meeting of the Agricultural Water Advisory Committee was held on October 2, 2023, at Santa Clara Valley Water District, Headquarters Building Boardroom, 5700 Almaden Expressway, San Jose CA 95118.

1. CALL TO ORDER/ROLL CALL

Committee Chair Jan Garrod called the meeting to order at 1:31 p.m.

Members in attendance were:

Jurisdiction	Representative
District 1	Erin Gil
	Mitchell Mariani
District 2	James Provenzano
District 5	Jan Garrod
	Trevor Garrod
District 6	Robert Long
Loma Prieta Resource Conservation District	Peter Van Dyke

Members in not attendance were:

Jurisdiction	Representative
District 4	Sheila Barry
	Brent Bonino
District 6	Tim Chiala
Santa Clara County Farm Bureau	Dhruv Khanna

Board members in attendance were: Director Jim Beall (District 4), Board Alternate, Director Richard P. Santos (District 3), and Director John L. Varela Board Representatives.

Staff members in attendance were: Jennifer Abadilla, Chanie Abuye, Jason Araujo, Aaron Baker, Glenna Brambill, Luan Buckley, Vanessa De La Piedra, Samantha Greene, Jason Gurdak, Heather Hamp, Bassam Kassab, Candice Kwok-Smith, Emelia Lamas, Dave Leon, Becky Manchester, Carmen Narayanan, Nicholas Simard, Kirsten Struve, Darin Taylor, Greg Williams, and Beckie Zisser.

Public in attendance was: Hon. Rebecca Eisenberg (Valley Board Member-District 7), Andrew Fisher, Ph.D. UC Santa Cruz, and Jim Lipina.

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

There was no public comment.

3. APPROVAL OF MINUTES

3.1 APPROVAL OF MINUTES

It was moved by Erin Gil, second by James Provenzano, and carried by unanimous vote approved the August 7, 2023, Agricultural Water Advisory Committee special meeting minutes, as presented.

4. REGULAR AGENDA ITEMS:

4.1 UNTREATED SURFACE WATER PROGRAM ACTIVITIES AND WATER MASTER CHARGE PRICING FOLLOW-UP

Darin Taylor reviewed the materials as outlined in the agenda item and answered questions as needed.

The Agricultural Water Advisory Committee discussed the following: water distribution breakdown, surface water master charges, differences between Municipal/Industrial (M&I) and Agricultural users, open space, ad valorem tax, drought credits, sustainable water, recycled and purified water sources, and recapturing water.

Aaron Baker, Carmen Narayanan, and Gregory Williams were available to answer questions.

The Agricultural Water Advisory Committee took no action.

4.2 FLOOD-MANAGED AQUIFER RECHARGE (FLOOD-MAR) PRE-FEASIBILITY STUDY FOR SANTA CLARA COUNTY

Samantha Greene reviewed the materials as outlined in the agenda item and answered questions as needed.

The Agricultural Water Advisory Committee discussed the following: refilling of reservoirs, wetlands restoration, groundwater recharging, percolation ponds, available funds for aquifer development, and infrastructure projects.

Dr. Andrew Fisher (U.C. Santa Cruz), Vanessa De La Piedra, Jason Gurdak, and Aaron Baker were available to answer questions.

The Agricultural Water Advisory Committee took no action.

4.3 REVIEW AGRICULTURAL WATER ADVISORY COMMITTEE WORK PLAN, THE OUTCOMES OF BOARD ACTION OF COMMITTEE REQUESTS; AND THE COMMITTEE'S NEXT MEETING AGENDA

Glenna Brambill reviewed the materials as outlined in the agenda and answered questions as needed.

January Agenda items:

- Election of Chair/Vice Chair
- Accomplishments Report
- Preliminary Groundwater Production Charges 2024-2025
- Water Supply Master Plan
- Standing Items Report

Erin presented the article handout on the *Climate The Detection and Attribution of Northern Hemisphere Land Surface Warming (1850–2018) in Terms of Human and Natural Factors: Challenges of Inadequate Data* key points:

- 38% temperature difference rural vs urban areas
- Ecosystem benefits in rural areas and living assets in the urban spheres
- Measuring the sun and use toward how fast warming/cooling
- Scientific application with managing future climate change—it will be beneficial to have living assets as well as the ecosystem benefits, such as open space, agriculture, and urban landscape for policy planning purposes.

The Agricultural Water Advisory Committee took the following action:
It was moved by Erin Gil, second by Peter Van Dyke, and carried by unanimous vote approved to have the Board consider placing the topic of climate change and ecosystem benefits on agriculture in Santa Clara County on the Agricultural Water Advisory Committee's work plan but would like staff to review the article first to see if this topic is relevant to the committee. This same item was approved at the committee's August meeting and received by the Board on October 10, 2023, without any action.

The next regularly scheduled meeting is Monday, January 8, 2024,1:30 p.m.

5. INFORMATION ITEMS:

5.1 REVIEW FISCAL YEAR 2023-2024 BOARD WORK PLAN

Glenna Brambill reviewed the materials as outlined in the agenda and answered questions as needed.

The Agricultural Water Advisory Committee took no action.

6. CLERK REVIEW AND CLARIFICATION OF COMMITTEE REQUESTS TO THE BOARD

Glenna Brambill reported there was one action for Board consideration:

Agenda Item 4.3:

1. The Committee unanimously voted to approve to have the Board consider placing the topic of ecosystems benefits on agriculture in Santa Clara

County on the Agricultural Water Advisory Committee's work plan but would like staff to review the article first to see if this topic is relevant to the committee. This same item was approved at the committee's August meeting and received by the Board on October 10, 2023, without action.

7. REPORTS

7.1 Director's Report

Director John L. Varela reported on inviting the Committee Members to tour:

- Silicon Valley Advanced Water Purification Center
- Anderson Dam Update
  Invited the Farm Bureau as well to tour these sites

Director Richard P. Santos reported:

- Tim Chiala won a certificate of green business ($125,000 from Measure S award) from Santa Clara Valley Water District.

7.2 Manager's Report

None.

7.3 Committee Member Reports

Peter Van Dyke shared some information regarding the September 28, 2023, Anderson Dam tour some of the committee members attended. The tour was very informative and the project is coming along nicely.

7.4 Informational Link Reports

Links are noted on the agenda.

8. ADJOURNMENT

8.1 Adjourn

Committee Chair Jan Garrod adjourned the meeting at 2:55 p.m. to the regular meeting on Monday, January 8, 2024, at 1:30 p. m.

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

Approved:

Santa Clara Valley Water District

File No.: 23-1269

Agenda Date: 1/8/2024
Item No.: 4.1.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Election of Chair and Vice Chair.

RECOMMENDATION:
Elect 2024 Chair and Vice Chair.

SUMMARY:
Per the Board Resolution, the duties of the Chair and Vice-Chair are as follows:

The officers of each Committee shall be a Chair and Vice-Chair, both of whom shall be members of that Committee. The Chair and Vice-Chair shall be elected by the Committee, each for a term of one year commencing on January 1 and ending on December 31 and for no more than two consecutive terms. The Committee shall elect its officers at the first meeting of the calendar year. All officers shall hold over in their respective offices after their term of office has expired until their successors have been elected and have assumed office.

The Chair shall preside at all meetings of the Committee, and he or she shall perform other such duties as the Committee may prescribe consistent with the purpose of the Committee.

The Vice-Chair shall perform the duties of the Chair in the absence or incapacity of the Chair In case of the unexpected vacancy of the Chair, the Vice-Chair shall perform such duties as are imposed upon the Chair until such time as a new Chair is elected by the Committee.

Should the office of Chair or Vice-Chair become vacant during the term of such office, the Committee shall elect a successor from its membership at the earliest meeting at which such election would be practicable, and such election shall be for the unexpired term of such office.

Should the Chair and Vice-Chair know in advance that they will both be absent from a meeting, the Chair may appoint a Chair Pro-tempore to preside over that meeting. In the event of an unanticipated absence of both the Chair and Vice-Chair, the Committee may elect a Chair Pro-tempore to preside over the meeting in their absence.

BACKGROUND:
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.

The Board may also establish Ad-hoc Committees to serve in a capacity as defined by the Board and will be used sparingly.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
None.

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

Santa Clara Valley Water District

File No.: 23-1270

Agenda Date: 1/8/2024
Item No.: 4.2.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Review and Approve 2023 Annual Accomplishments Report for Presentation to the Board (Committee Chair).

RECOMMENDATION:

A. Approve the 2023 Accomplishments Report for presentation to the Board; and
B. Provide comments to the Committee Chair to share with the Board as part of the Accomplishments Report presentation pertaining to the purpose, structure, and function of the Committee.

SUMMARY:

The Accomplishments Report summarizes the committee's discussions and actions to prepare Board policy alternatives and implications for Board deliberation throughout 2023. The Committee Chair, or designee, presents the Accomplishments Report to the Board at a future Board meeting.

The Committee may provide feedback to the Committee Chair, at this time, to share with Board as part of the Accomplishments Report presentation pertaining to the purpose, structure, and function of the Committee.

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.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Ag Water Adv Comm 2023 Accomplishments Report

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

2023 Accomplishments Report:
Agricultural Water Advisory Committee

Update: December 2023

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 BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME
1	**Election of Chair and Vice Chair for 2023**	January 9	**Accomplished January 9, 2023:** The Committee unanimously approved Jan Garrod as the 2023 Agricultural Water Advisory Committee Chair and Peter Van Dyke as the 2023 Agricultural Water Advisory Committee Vice-Chair.
2	**Annual Accomplishments Report**	January 9	**Accomplished January 9, 2023:** The Committee unanimously approved the 2022 Annual Accomplishments Report. *The Board received the Committee's presentation at its March 28, 2023, meeting.*
3	**Review and Comment to the Board on the Fiscal Year 2023 – 2024 Preliminary Groundwater Production Charges**	January 9	**Accomplished January 9, 2023:** The Committee reviewed and commented on the Fiscal Year 2023-2024 Preliminary Groundwater Production Charges and took the following action: The Committee unanimously approved the Committee forming a subcommittee to discuss the rates and comparison data from other agencies regarding farming.
4	**Quarterly Drought Response Update**	January 9 April 3	**Accomplished January 9, 2023, and April 3, 2023:** The Committee received an update on the Drought Response and took no action.
5	**Agricultural Water Use Baseline Study Update**	January 9	**Accomplished January 9, 2023:** The Committee received information on the Agricultural Water Use Baseline Study and took no action.
6	**Information on Proposal to Update the Untreated Surface Water Program**	January 9	**Accomplished January 9, 2023:** The Committee received information on Proposal to Update the Untreated Surface Water Program and took no action.

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

2023 Accomplishments Report:
Agricultural Water Advisory Committee

Update: December 2023

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME
7	**Review of Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda**	January 9 April 3 August 7 October 2	**Accomplished January 9, 2023:** The Committee received and reviewed the 2023 Board-approved Committee work plan and took no action. **Accomplished April 3, 2023:** The Committee received and reviewed the 2023 Board-approved Committee work plan and took the following action: The Committee unanimously approved having a special meeting Monday, August 7, 2023, at 1:30 p.m. **Accomplished August 7, 2023:** The Committee received and reviewed the 2023 Board-approved Committee work plan and took the following actions: 1.The Committee unanimously voted to approve to have the Board consider the Agricultural Water Advisory Committee's recommendation to receive an update of Valley Water's activities of the unhoused and information of the enforcement of violations for private landowners. 2.The Committee unanimously voted to approve to have the Board consider placing the topic of ecosystems benefits on agriculture in Santa Clara County on the Committee's work plan. *The Board received the Committee's recommendations at its October 10, 2023, meeting and requested the Committee give more detailed information for Board's consideration.* **Accomplished October 2, 2023:** The Committee received and reviewed the 2023 Board-approved Committee work plan and took the following action: The Committee unanimously voted to approve staff reviewing the handout on the topic of ecosystems benefits on agriculture in Santa Clara County to see if the Board would consider adding it to the work plan.

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

2023 Accomplishments Report:
Agricultural Water Advisory Committee

Update: December 2023

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME
8	**Standing Items Report Fiscal Year 2023 Goals and Strategies:**	January 9 August 7	**Accomplished January 9, 2023 and August 7, 2023:** The Committee received the quarterly report on standing items for FY2023 and took no action.

GOAL	OBJECTIVE	FY23 TACTICS	MONITORING COMMITTEE
INTEGRATED WATER RESOURCES MANAGEMENT ***"Efficiently manage water resources across business areas."***	*Objective #1 Challenge/Opportunity* *The maintenance of Valley Water's infrastructure is crucial to ensuring we continue to provide safe, clean water and critical flood protection for our communities. Timely maintenance is the most cost-effective investment, whereas deferred maintenance disproportionately increases costs and causes unplanned outages and failures risking the population of the county. In addition, aging assets are reaching the end of the design life and will require major recapitalization.*	• Develop a Fuel Management Policy to guide the incorporation of wildfire planning efforts in an integrated and programmatic way. • Continue a robust preventive maintenance program including monitoring asset condition and risk. • Strategically plan for larger infrastructure renewal projects through Safe Clean Water Project F8 – Sustainable Creek Infrastructure for Continued Public Safety; Water Treatment Plant, Distribution System, and SCADA Implementation Plans; Watersheds and Water Utility Operations and Maintenance Plans; and various Asset Management Plans. • Advance infrastructure renewal projects identified in strategic planning efforts by initiating new Capital or Small Capital Projects, or by conducting work as part of ongoing operations projects. • Develop comprehensive infrastructure master plans for all water utility treatment plant and distribution infrastructure (e.g. pipelines and pump stations) to plan out 30-year capital investments that meet future regulatory requirements, and fold in projects identified in the Asset Management and Operations & Maintenance Plans. • Expedient execution of the adopted Capital program and projects.	Board Policy and Planning Committee (BPPC) CIP Committee (CIPC)
	Objective #2 Challenge/Opportunity *Valley Water continues to pursue legislative and administrative solutions to resolve regulatory and permitting issues at the federal and state levels. The Board's efforts will continue to focus on improving internal capacity when applying for permits, as well as continuing to build relationships with regulatory agencies and staying abreast of the regulatory environment.*	• Continue to provide for agency-wide regulatory planning and permitting effort and pursue other efforts at the state and federal level to expedite permit review. • Continue to foster better relationships with regulatory agencies and open dialogue with environmental, environmental justice and other stakeholders. • Continue to work with the Regional Water Quality Control Board (RWQCB) under the terms of our memorandum of understanding (MOU) to expedite issue resolution and prevent regulatory overreach.	BPPC

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME	
			• Collaborate with RWQCB on the Steelhead Regional Temperature Study.	
WATER SUPPLY ***"Provide a reliable, safe, and affordable water supply for current and future generations in all communities served."***	*Objective #1 Challenge/Opportunity* *Half of Santa Clara County's water supply is imported from outside the county. At this time, when there is a lot of water, Valley Water may not be able to take advantage of these supplies due to limitations in existing storage and transmission infrastructure as well as regulatory constraints. Having a diverse portfolio of storage options helps Valley Water be resilient. Therefore, Valley Water is evaluating whether diversifying its storage portfolio could help maximize our use of storage and stored water recovery under future conditions. Water storage in reservoirs also provides environmental, recreational, and incidental flood risk reduction benefits. Challenges include determining the appropriate level of participation for Valley Water in collaborative water storage projects and prioritizing projects within funding constraints.*		• Explore opportunities to develop new surface and groundwater storage projects that help Valley Water meet future water supply needs and be resilient to climate change. • Determine level of participation for projects and decisions about partnerships in accordance with the Water Supply Master Plan and water affordability. • Explore partnership opportunities for the Pacheco Reservoir Expansion Project • Validate Valley Water's continued participation in the Pacheco Reservoir Expansion Project during the MAP review process, bi-annual budget development, and following review and certification of the project's Environmental Impact Report (EIR).	Water Storage Exploratory Committee (WSEC)
	Objective #2 Challenge/Opportunity *The Water Supply Master Plan's "Ensure Sustainability" strategy includes securing existing water supplies and infrastructure. Valley Water's local and imported water supplies are vulnerable to climate change impacts, droughts, earthquake, and regulatory requirements that may restrict the amount of available water.*		• Participate in and influence decisions regarding the Delta Conveyance Project. • Participate in regional water supply resilience efforts. • Build and maintain effective partnerships to increase resiliency. • Complete and implement infrastructure master plans and asset management plans. • Partner with the California Department of Water Resources (DWR) to ensure reliability of the South Bay Aqueduct.	Water Conservation and Demand Management Committee (WCaDMC) (Groundwater) CIPC (infrastructure projects)
	Objective #3 Challenge/Opportunity *Recycled and purified water is a drought resilient, locally controlled water supply important to long-term sustainability. The Water Supply Master Plan includes developing up to 24,000 acre-feet per year of purified water by 2040. Purified water is recycled water that has been treated further using reverse osmosis and other advanced treatment to make it fit for drinking. Valley Water is pursuing indirect potable reuse which would use this purified water to replenish our groundwater. Implementation challenges include securing wastewater*		• Implement the first phase of the Purified Water Program, including release of a Request For Proposal (RFP) and enter into a contract for an Indirect Potable Reuse project that is implemented via a Public Private Partnership. • Implement the Countywide Water Reuse Master Plan. • Develop a Comprehensive Water Reuse Agreement for South County to advance water reuse and its production, distribution, and wholesaling in South County. • Continue to actively be involved with the Direct Potable Reuse (DPR) guidance and ensure Valley Water is positioned to implement a DPR	Recycled Water Committee (RWC)

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME	
	supply contractual agreements with wastewater agencies, available land, stringent regulatory requirements, and implementation costs.		project in the future. • Continue collaboration on the Silicon Valley Advanced Water Purification Center including building a strong collaborative relationship with the San José-Santa Clara Regional Wastewater Facility to expand the facility.	
	Objective #4 Challenge/Opportunity *As our largest reservoir, Anderson serves not only as a critical water supply facility, but also supports Valley Water's mission of flood protection and environmental stewardship. Given the reservoir's critical importance to ensuring safe, clean water for our communities and to protect public safety, it is imperative that the Anderson Dam Seismic Retrofit Project (ADSRP) move forward expeditiously. This includes the reconstruction of the Dam and completion of the interim risk reduction measures resulting from the February 20, 2020, directive from the Federal Energy Regulatory Commission (FERC).*		• Maintain the Anderson Reservoir level at the FERC directed level. • Complete the construction on the Anderson Dam Tunnel Project (ADTP). • Complete the design of the ADSRP. • Continue to work with appropriate regulatory agencies to advance the ADSRP. • Release the Draft Environmental Impact Report for the ADSRP. • Obtain all necessary permits for ADSRP construction. • Continue to educate and engage the public, key stakeholders, decision makers, and elected officials of the project progress and construction timeline. • Coordinate long term ADSRP operations with the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE).	CIPC Stream Planning and Operations Committee (SPOC)
	Objective #5 Challenge/Opportunity *Droughts are a recurring feature of California's climate and may intensify with climate change. Water conservation is an essential component in providing a reliable water supply and Valley Water has set a water conservation goal for annual water savings of 99,000 acre-feet (AF) by 2030 and 109,000 AF by 2040. As Valley Water faces challenges from climate change and drought, water conservation will continue to be amongst the most cost-effective tools for efficiently meeting current and future demands while mitigating droughts.*		• Continue communication and educational outreach to promote Valley Water's water conservation programs. • Increase collaboration with our retailer partners to promote Valley Water's water conservation programs. • Implement new water conservation programs and engagement strategies identified within the Water Conservation Strategic Plan. • Engage and support private-sector stakeholders, local, state, and federal agencies that promote water conservation. • Develop and implement a Drought Response Plan with support and input from our retailer partners and the broader community to guide short-term behavioral changes during water shortages.	WCaDMC
NATURAL FLOOD PROTECTION **"Provide Natural Flood Protection to reduce risk and improve health and safety."**	Objective #1 Challenge/Opportunity *Valley Water is challenged to sustain ecosystem health while managing local water resources for flood protection and water supply. By using an integrated approach to planning and designing flood protection planning, there is an opportunity to create projects with multiple benefits.*		• Make significant progress on One Water plans for the Guadalupe and Pajaro watersheds. • Complete construction of Reaches 1-3 of the Shoreline Phase I Project and pursue funding alternatives for Reaches 4-5 to provide 100-year coastal flood risk management, ecosystem restoration, recreational opportunities, and resiliency for sea level rise. • Complete construction of Phase 2A of the Upper Llagas Flood Protection Project to provide flood protection and habitat enhancement.	CIPC BPPC

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME	
			• Advance the Palo Alto Flood Basin Project into construction, a repair project to ensure a functional flood basin with wetland habitat. • Advance the Sunnyvale East/West Channels Project into construction to provide 100-year storm water flood protection. • Compete the U.S. Army Corps of Engineers Upper Guadalupe River Project General Reevaluation Study to provide 100-year flood protection. • Advance the San Francisquito Creek upstream 101 Project into construction to provide flood protection. • Advance the Coyote Creek Flood Mitigation and Flood Protection Projects into construction to provide flood protection for an event equivalent to the 2017 storm event.	
	Objective #2 Challenge/Opportunity *As Valley Water continues to advance flood protection projects, the Board has an opportunity to strengthen relationships and improve coordination with conservation and environmental justice groups, as well as other local jurisdictions, with a specific focus on ensuring the voices of disadvantaged communities are equitably represented.*		• Advance One Water Countywide Framework in a comprehensive manner that includes diverse community-wide stakeholders and the incorporation of environmental justice policies in all planning efforts. • Continue progress on flood protection capital projects consistent with Valley Water's commitment to the Safe, Clean Water Program and equitability in all regions. • Plan flood risk reduction projects to provide a minimum level of protection countywide.	CIPC BPPC
ENVIRONMENTAL STEWARDSHIP ***"Sustain ecosystem health while managing local water resources for flood protection and water supply."***	*Objective #1 Challenge/Opportunity* *Valley Water's projects and programs require integrated planning to ensure capital improvements, operations, and maintenance activities are balanced with environmental stewardship goals. Valley Water strives to protect and restore habitats to support native species throughout Santa Clara County.*		• Continue to develop an integrated water resource plan for each watershed, including appropriate metrics to monitor Valley Water's impacts on and benefit to the environment. • Implement high priority actions included in the Climate Change Action Plan. • Make significant progress on the grant-funded planning study for the San Tomas Aquino Calabazas Creek Realignment Project. • Advance construction for the Bolsa Creek and Hale Creek projects to begin in Summer 2022. • Advance Almaden Lake Improvement Project to begin construction in 2023. • Continue to develop and build on partnerships with environmental organizations and tribal communities when developing projects.	BPPC
	Objective #2 Challenge/Opportunity		• Continue efforts to protect the ecosystem and water quality of our water Bodies and the integrity of our infrastructure. Such efforts include	Environmental Creek Cleanup Committee (ECCC)

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME	
	Valley Water continues to coordinate with local cities and agencies to improve the health of our local waterways, including pollution prevention and addressing threats to water quality. Opportunities exist to further collaborate with the County, cities, and social services agencies on encampment abatement efforts and to develop long-term solutions for the homeless to keep our creeks clean.		preventing stormwater pollution, increased implementation of green stormwater infrastructure, addressing mercury pollution, and homeless encampment clean ups. • Coordinate with the County, cities, and other service providers to try to ensure the permanent removal of homeless encampments from creeks and trails. • Continue partnerships and investments on a regional scale such as the South Bay Salt Pond Restoration and Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP).	(SPOC)
	Objective #3 Challenge/Opportunity *For nearly 20 years, Valley Water has been working to resolve a water rights complaint surrounding fish, wildlife, water quality, and other beneficial uses in Coyote Creek, Guadalupe River, and Stevens Creek watershed areas. Challenges include completing the environmental review process, obtaining federal and state permits from multiple regulatory agencies, refining and processing water rights change petitions, the technical complexity of the fisheries impacts analysis, coordination with other ongoing related projects and managing stakeholder expectations.*		•Finalize the June 2021 Guadalupe River and Stevens Creek Environmental Impact Report (EIR) consistent with existing stakeholder agreement. •Advance 10 water right change petitions for securing water right orders. • Continue to implement the pilot flow program in Guadalupe and Stevens Creek. • Continue to implement feasibility studies, monitoring activities, and Planning and construction of various fish passage improvements as identified in existing stakeholder agreement. • Continue fisheries monitoring program. • Continue to support an adaptive management program that encompasses all three creeks.	SPOC
CLIMATE CHANGE ***"Mitigate Carbon Emissions and Adapt Valley Water Operations to Climate Change Impacts."***	*Objective #1 Challenge/Opportunity* *Valley Water's ability to fulfill its mission will be challenged in the future by warmer temperatures, changing precipitation patterns, reduced snowpack, and rising sea levels. Valley Water has been working on greenhouse reduction efforts since 2008 and many adaptation actions over the past decade; however, with adoption of the Climate Change Action Plan there is an opportunity for greater impact.*		•Update carbon accounting and establish new emissions reduction goal if needed. •Make significant progress on development of an agency-wide greenhouse gas reduction plan.	Climate Adaptation and Sustainability Committee (CAaSC)
BUSINESS MANAGEMENT ***"Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services."***	*Objective #1 Challenge/Opportunity* *Valley Water is committed to creating and maintaining a diverse, inclusive, and equitable work environment that is devoid of discrimination and harassment and provides equal opportunity employment and advancement. Valley Water aims to implement the same values in the community through its flood protection, water supply, and environmental stewardship projects, and has an opportunity to serve as a leader for racial equity, diversity, and inclusion throughout the state.*		•Develop and implement a Diversity, Equity and Inclusion Master Plan that institutes best practices to address internal and external disparities and builds an organizational culture that is consistent with the Board's Resolution addressing racial equity, diversity, and inclusion. • Remain committed to environmental justice and the fair treatment and meaningful engagement of all people regardless of race, color, national origin, religion, gender identity, disability status, tribe, culture, income, immigration status, or English language proficiency, with respect to the planning, projects, policies, services, and operations of Valley Water.	Diversity & Inclusion Ad Hoc Committee (DIAHC)

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME
			• Continue to collaborate with external stakeholders that are engaged in developing diversity, equity, and inclusion initiatives and actively participate in and provide leadership for diversity, equity, and inclusion efforts throughout the state. • Advance and foster mutually beneficial partnerships with regional tribal communities.
9	**Review Proposed Fiscal Year 2023-24 Groundwater Production Charges and Receive Committee Feedback**	April 3	**Accomplished April 3, 2023:** The Committee reviewed proposed Fiscal Year 2023-24 Groundwater Production Charges and and took the following actions: 1. The Committee unanimously approved to continue keeping the groundwater production charges (rates) low. 2. The Committee unanimously approved, have Vice Chair Peter Van Dyke of the subcommittee write a letter to the Board on behalf of the full committee regarding suggestions for keeping rates low and explaining the benefits of agriculture (farming). *The Board received the Committee's recommendation at its May 16, 2023, meeting and took action.*
10	**Provide Feedback to the Board Policy and Planning Committee on the Committee's Purpose and Accomplishments and Suggest Areas of Improvement.**	April 3	**Accomplished April 3, 2023:** The Committee reviewed feedback provided to the Board Policy and Planning Committee on February 6, 2023, by the Board Advisory Committees' Chairs/Vice Chairs on the Committees' purposes and accomplishments and suggest areas of improvement and took no action.
11	**Untreated Surface Water Program Activities and Water Master Charge Overview**	August 7 October 2	**Accomplished August 7, 2023:** The Committee received information on the Untreated Surface Water Program activities and Water Master Charge overview and staff will be returning with further information at the next meeting. **Accomplished October 2, 2023:** The Committee received an overview on Untreated Surface Water Program Activities and Water Master Charge and took no action.

2023 Accomplishments Report:
Agricultural Water Advisory Committee

Update: December 2023

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	ACCOMPLISHMENT DATE AND OUTCOME
12	**Setting Requirements for Metering of Wells in All Valley Water Groundwater Benefit Zones**	August 7	**Accomplished August 7, 2023:** The Committee received information on Setting Requirements for Metering of Wells in All Valley Water Groundwater Benefit Zones and took no action.
13	**Flood-Managed Aquifer Recharge Preliminary Feasibility Study for Santa Clara County**	October 2	**Accomplished October 2, 2023:** The Committee received information on the Flood-Managed Aquifer Recharge Preliminary Feasibility Study for Santa Clara County and took no action.
14	**Review Fiscal Year 2023-2024 Board Work Plan**	October 2	**Accomplished October 2, 2023:** The Committee received information on the Fiscal year 2023-2024 Board Work Plan and took no action.

BOARD WORK PLAN GOALS:
Integrated Water Resources Management - Goal: Efficiently manage water resources across business areas.

1. **Water Supply** – Goal: Provide a reliable, safe, and affordable water supply for current and future generations in all communities served.
2. **Natural Flood Protection –** Goal: Provide natural flood protection to reduce risk and improve health and safety.
4. **Environmental Stewardship** – Goal: Sustain ecosystem health while managing local water resources for flood protection and water supply.
5. **Addressing Encampment of Unsheltered People** – Goal: Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments.
6. **Climate Change** – Goal: Mitigate carbon emissions and adapt Valley Water operations to climate change impacts.
7. **Business Management** – Goal: Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

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File No.: 23-1078

Agenda Date: 1/8/2024
Item No.: 4.3.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Review and Provide Comment to the Board on Staff's Preliminary Fiscal Year 2024 - 2025 Groundwater Production Charges.

RECOMMENDATION:
Review staff's preliminary Fiscal Year 2024 - 2025 Groundwater Production Charges and provide comment to the Board as appropriate.

SUMMARY:
Summary of Preliminary Groundwater Production Charge Analysis:

Staff has prepared the preliminary Fiscal Year 2024 - 2025 (FY 2024-25) groundwater production charge analysis for Board review. Staff is seeking Committee input on the preliminary analysis to incorporate into the development of the groundwater production charge recommendation.

The groundwater production charge reflects the benefit of District activities to protect and augment groundwater supplies and is applied to water extracted from the groundwater basin in Zones W-2, W-5, W-7, and W-8. Zone W-2 encompasses the Santa Clara groundwater subbasin north of Metcalf Road or the North County. Zone W-5 overlays the Llagas subbasin from northern Morgan Hill south to the Pajaro River. Zone W-7 overlays the Coyote Valley south of Metcalf Road to northern Morgan Hill, and W-8 encompasses the area below Uvas and Chesbro Reservoirs.

The groundwater production charge recommendation will be detailed in the Annual Report on the Protection and Augmentation of Water Supplies that is planned to be filed with the Clerk of the Board on February 23, 2024. The public hearing on groundwater production charges is scheduled to open on April 9, 2024. It is anticipated that the Board would set the FY 2024-25 groundwater production charges by May 14, 2024, that would become effective on July 1, 2024.

The FY 2024-25 groundwater production charge and surface water charge setting process will be conducted consistent with the District Act, and Board resolutions 99-21 and 12-10.

Water Usage Trend

District managed water use for FY 2022-23 is estimated to be approximately 197,600 acre-feet (AF), roughly 6,100 AF higher than budgeted due to a slight increase of water use at the conclusion of the drought. Water use is budgeted slightly higher for FY 2023-24 at 207,000 AF, and projected around 222,000 AF for FY 2024-25. The projection has been adjusted based on trends from the last drought (2014-2017), returning to “normal” water use by FY 2025-26.

Agricultural water use trends remain stable, with agricultural District-managed water use averaging nearly 28,000 AF per fiscal year. In FY 2024-25, around 27,400 AF is projected for total agricultural water use. This represents about 11% of total District-managed water use projected for FY 2024-25.

Groundwater Production Charge Projections

Staff has prepared an initial baseline groundwater production charge projection scenario for Board review. The preliminary groundwater production charge analysis includes an 8.0% increase in the FY 2024-25 Municipal & Industrial (M&I) groundwater production charge for Zone W-8 from $398.00/AF to $430.00/AF. The agricultural groundwater production charge was set at 9.25% of the Zone W-8 M&I rate for FY 2024-25. This translates to a groundwater production charge of about $39.80 per acre foot for agricultural use.

Staff has prepared the following baseline scenario for Board consideration:

Scenario 1) Baseline:
This scenario includes the following projects and assumptions:

- Agricultural rates set at 9.25% of lowest M&I rate (Zone W-8)
- Water use rebounding about 7.2% in FY 2024-25 to 222,000 AF
- Anderson Reservoir leveraging WIFIA loans (up to 49% of total project cost [TPC])*
- Pacheco Reservoir Expansion Project (PREP) with $504M Proposition 1 grants, WIFIA loans (up to 49% of TPC) and Partnership Participation at 35% of TPC*
- Purified Water Expansion operational by FY28, assumes 100% debt financed by P3 entity*
- Los Vaqueros (Transfer Bethany Pipeline) with up to 50,000 AF storage*
- Sisk Dam Raise with up to 60,000 AF storage*

In addition to the baseline scenario outlined above, Staff anticipates preparing several scenarios for Board consideration, including one with lower water usage and additional scenarios reflecting a range of assumptions for capital projects. Staff can model additional scenarios for the Board as needed.

* Of note, the projects listed above as part of Baseline do not impact the South County Zone W-8 groundwater production charge that the agricultural rate is based upon.

The preliminary analysis does not include unfunded capital projects or additional unfunded operations cost needs identified by staff.

Open Space Credit

The Valley Water Board has historically recognized that agriculture brings value to Santa Clara County in the form of open space and local produce. To help preserve this value, the District Act limits the agricultural charge to be no more than 25% of the M&I charge. In 1999, to further its support for agricultural lands, the Board put a policy in place to further limit the agricultural groundwater production charge to no more than 10% of the M&I charge.

The agricultural community currently benefits from low groundwater charges that are equivalent to about 2% of M&I charges in North County Zone W-2, 7% of M&I charges in South County Zone W-5, 5% of M&I charges in South County Zone W-7, and 9.25% of M&I charges in South County Zone W-8. According to Section 26.1 of the District Act, agricultural water is “water primarily used in the commercial production of agricultural crops or livestock.”

The credit to agricultural water users has become known as an “Open Space Credit.” It is paid for by fungible, non-rate related revenue. To offset lost revenue that results from the difference between the adopted agricultural groundwater production charge and the agricultural charge that would have resulted at the full cost of service, Valley Water redirects a portion of the 1% ad valorem property taxes generated in the Water Utility, General and Watershed Stream Stewardship Funds.

A PowerPoint presentation will be provided at the meeting.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: PowerPoint Presentation

UNCLASSIFIED MANAGER:
Darin Taylor, 408-630-3068

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Preliminary FY 2024-25 Groundwater Production Charges

Presented by: Carmen Narayanan, Financial Planning & Revenue Manager

Agricultural Water Advisory Committee, January 8, 2024

Valley Water

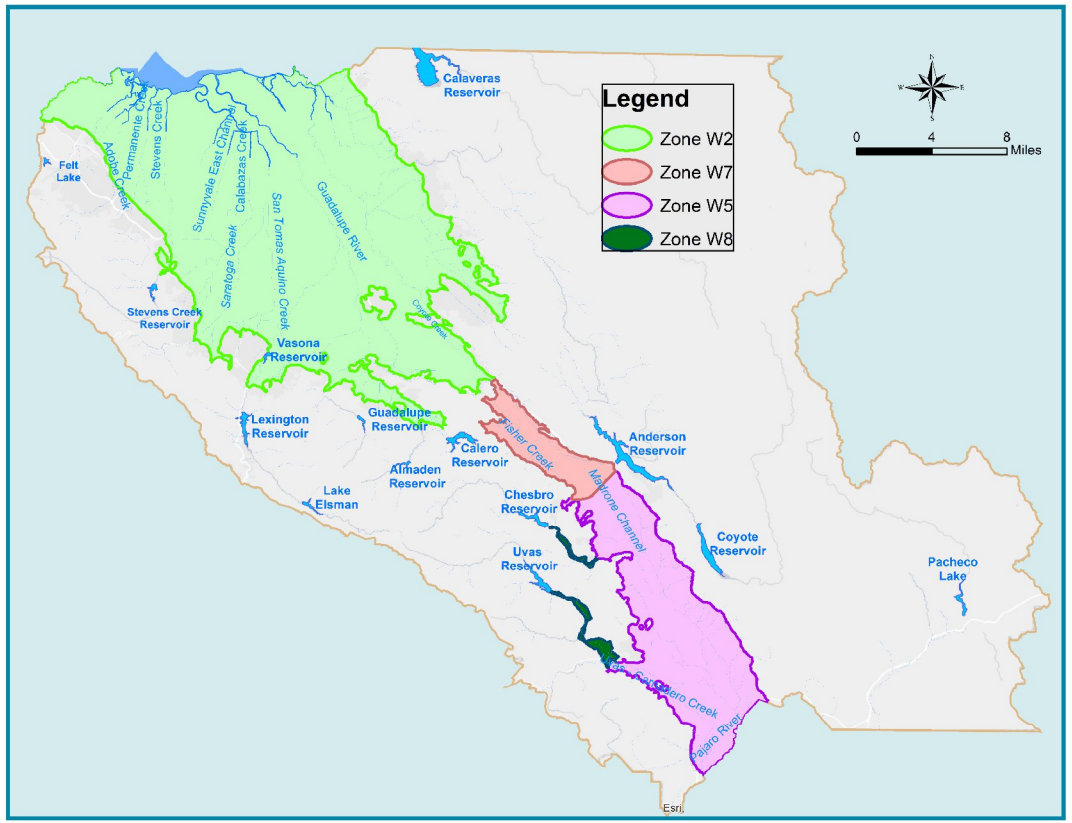
Topics

1. Background Information on Groundwater Charge Zones & Board's Pricing Policy
2. Water Usage Projections
3. Preliminary Groundwater Production Charges
4. Schedule & Summary

Valley Water

Resolution 99-21 is the Board's Pricing Policy

- Groundwater charges are levied within a zone for benefits received
- All water sources and water facilities contribute to common benefit within a zone regardless of cost, known as "pooling" concept
  - Helps maximize effective use of available resources
- Agricultural water charge shall not exceed 10% of M&I water charge



Rate Setting Strategy for FY 2024-25

FY 25 Baseline Case Assumptions

Agricultural Rate set at 9.25% of lowest M&I rate (Zone W-8)

Water use rebounding nearly 8% in FY 2024-45 to 222,000 AF → Ag water projection projected at 27,400 AF

Secure Existing Supplies and Infrastructure

- Baseline Projects[1]
- Anderson Dam Seismic Retrofit with WIFIA loan (up to 49% of TPC)
- Master Plan Projects Placeholder[2]: Assumes $326M from FY26-FY34
- SWP Tax pays for 100% of SWP costs (excludes SWP portion of Delta Conveyance)
- Delta Conveyance SWP portion continues at 3.23% [3]

Expand Conservation and Reuse

- Purified Water Expansion via P3 with operations beginning in FY28, assumes 100% debt financing through P3 entity

Increase System Reliability & Flexibility

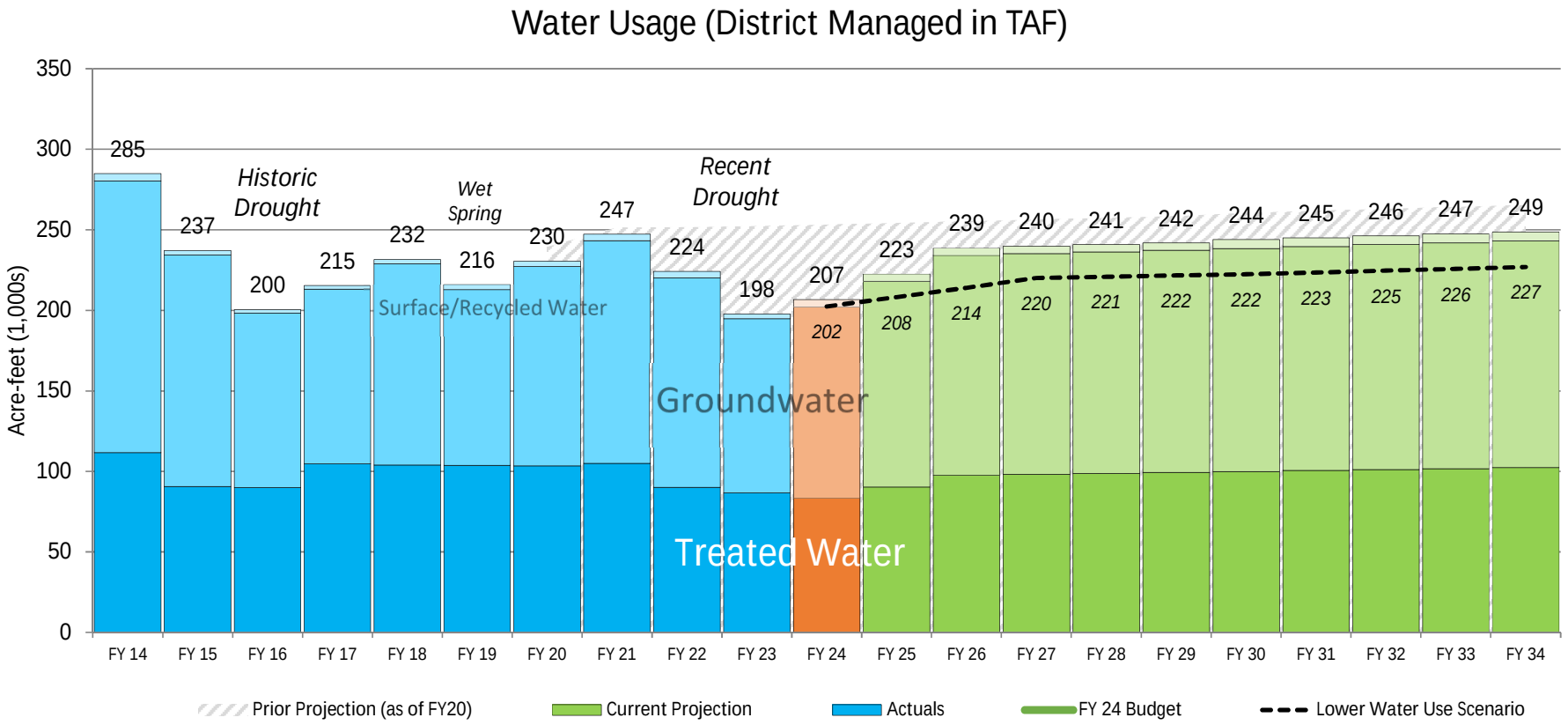
- Pacheco Reservoir Expansion Project (PREP) with $504M Proposition 1 grants, WIFIA loan (up to 49% of TPC) and Partnership Participation at 35% of TPC
- Los Vaqueros (Transfer Bethany Pipeline) with up to 50,000 AF Storage [3]
- Sisk Dam Raise at San Luis Reservoir with up to 60,000 AF Storage [3, 4]

Valley Water

1 Includes but not limited to dam seismic retrofits, Rinconada WTP reliability improvement, 10-year pipeline rehabilitation program.
2 Master Plan Project Placeholder includes anticipated costs for new pipelines, pipeline rehabilitations, treatment plant upgrades & SCADA implementation projects.
3 Project costs are reflected as Operations & Maintenance costs.
4 Staff recommendation to the Board is to include project in Baseline.

TPC: Total Project Cost SWP: State Water Project

District Managed Water Usage



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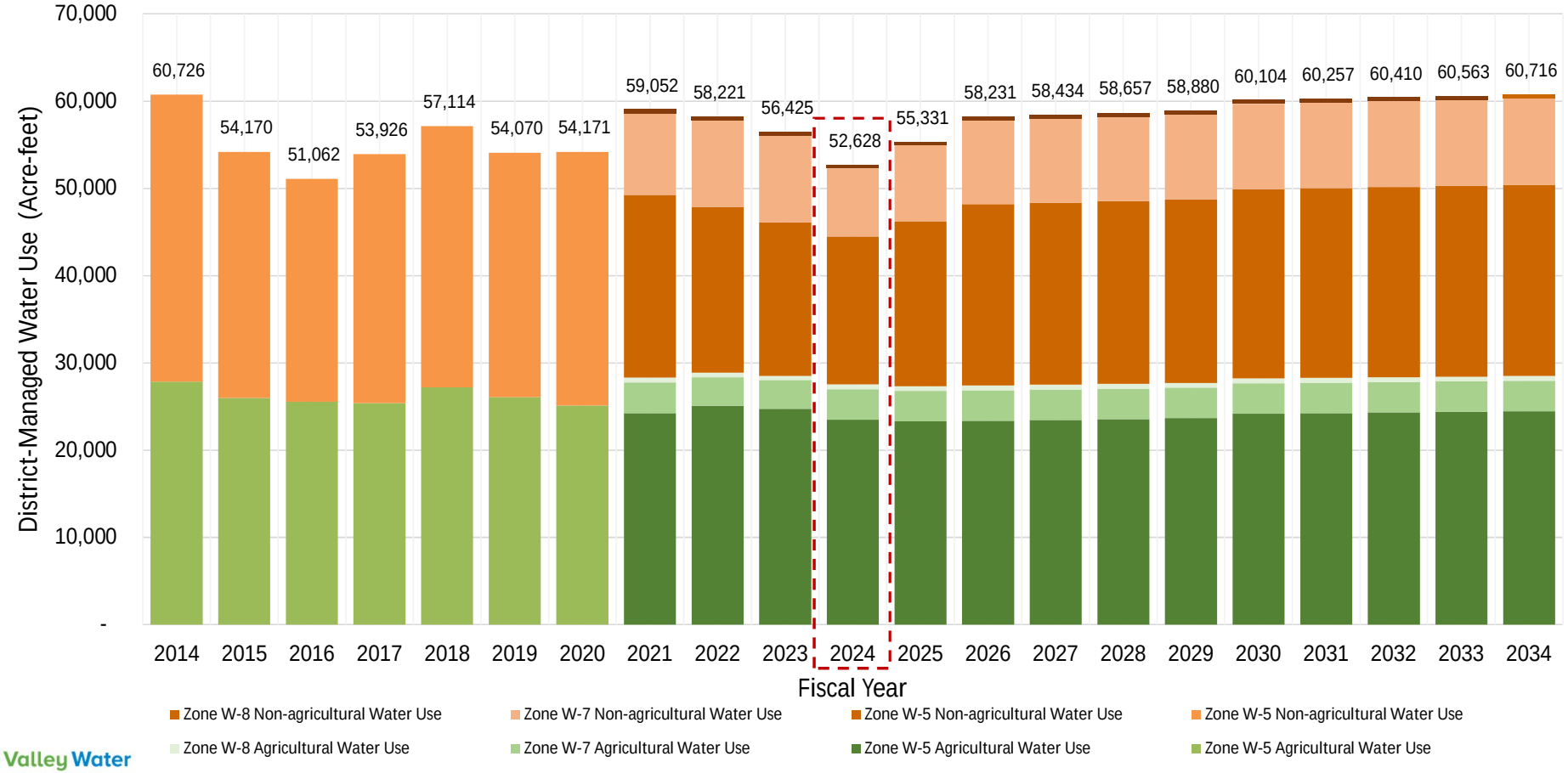
District Managed Water Usage

Agricultural Use by Zone in South County



Adopted FY24 budget highlighted in box. Of note, FY23 M&I actuals exceeded budget. A similar result is anticipated for FY24 M&I groundwater production.

FY 2024-25 Preliminary Groundwater Production Charge Projection

Municipal & Industrial Rate by Zone	FY 2023-24 GW Production Charge	FY 2024-25 Preliminary GW Production Charge	% Increase	Increase to Average Monthly Bill (1,500 CCF/month)
North County W-2	$1,974.00	$2,260.00	14.5%	$9.85
South County W-5	$543.50	$578.50	6.5%	$1.21
South County W-7	$657.50	$749.50	14.0%	$3.17
South County W-8	$398.00	$430.00	8.0%	$1.10
Agricultural	$36.85	$39.80	8.0%	$0.49*

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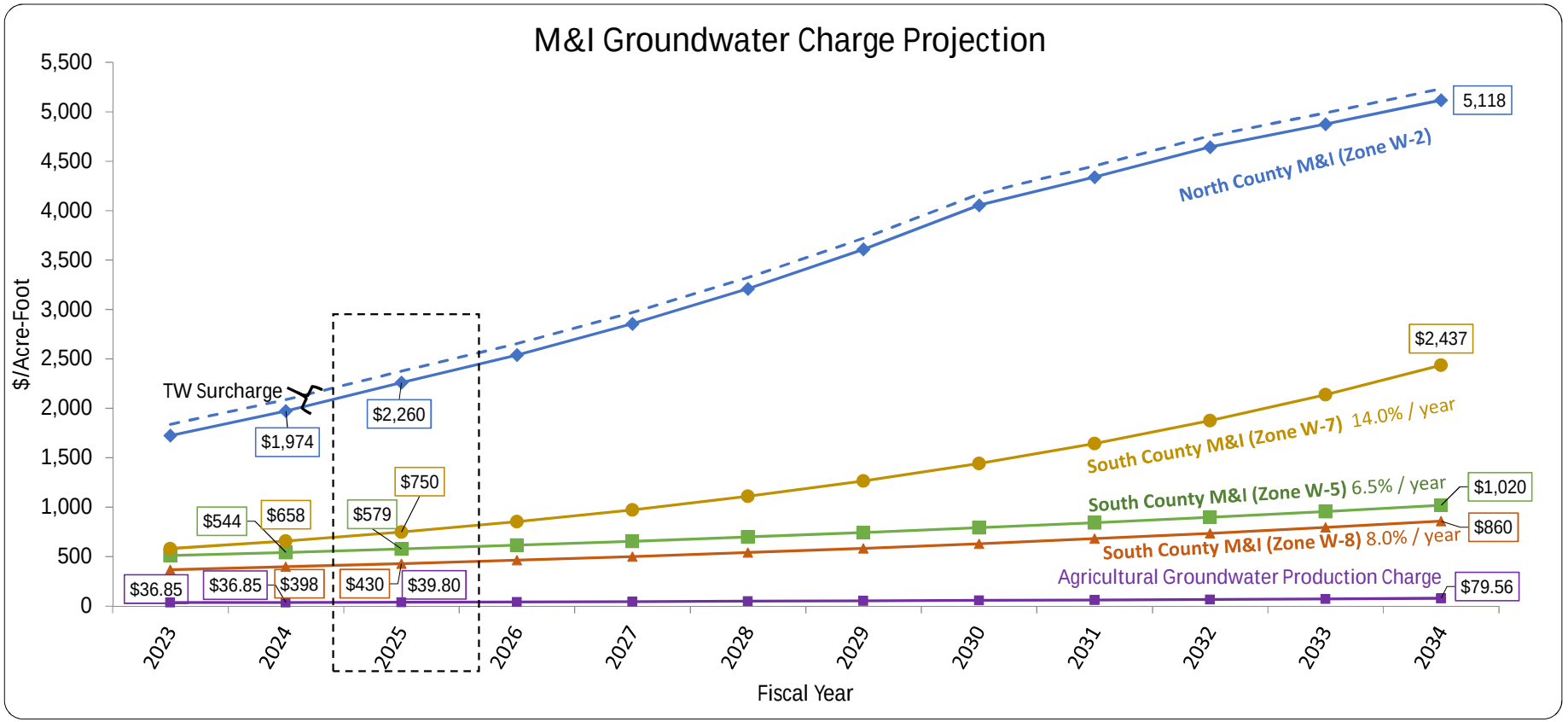
* Assumes Agricultural users who pump 2 AF per acre per year

Preliminary Groundwater Production Charge Projection

Baseline Scenario



Valley Water

Rate Setting Schedule FY 2024-25

- Jan 8 — Ag Water Advisory Committee: Preliminary Groundwater Charge Analysis
- Jan 9 — Board Meeting: Preliminary Groundwater Charge Analysis
- Jan 17 — Water Retailers Meeting: Preliminary Groundwater Charge Analysis
- Jan 24 — Water Commission Meeting: Preliminary Groundwater Charge Analysis
- Feb 13 — Board Meeting: Set time & place of Public Hearing
- Feb 23 — Mail notice of public hearing and file PAWS report
- Mar 12 — Board Meeting: Second Pass Budget development update
- Mar 20 — Water Retailers Meeting: FY 25 Groundwater Charge Recommendation
- Apr 8 — Ag Water Advisory Committee
- Apr 9 — Open Public Hearing
- Apr 10 — Water Commission Meeting
- Apr 11 — Continue Public Hearing in South County
- Apr 23 — Conclude Public Hearing
- Apr 24-25 — Board Meeting: Budget work study session
- May 14 — Adopt budget & groundwater production and other water charges

Valley Water

Summary

COMMITTEE ACTIONS TODAY

1. Review and Comment to the Board on the Fiscal Year 2024-25 Preliminary Groundwater Production Charges

Valley Water

File No.: 23-1271

Agenda Date: 1/8/2024
Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050.

RECOMMENDATION:
Provide feedback on the development of Water Supply Master Plan 2050.

SUMMARY:
The Water Supply Master Plan (WSMP) is the Santa Clara Valley Water District's (Valley Water) guiding document for long-term water supply investments to ensure water supply reliability for Santa Clara County. Updated about every five years, this long-range plan assesses future countywide demands and evaluates and recommends water supply and infrastructure projects to meet those demands to achieve Valley Water's level of service (LOS) goal through the planning horizon. Valley Water's LOS goal is "Meet 100 percent of annual water demand during non-drought years and at least 80 percent demand in drought years."

The most recent plan, Water Supply Master Plan 2040, was adopted by the Valley Water Board of Directors (Board) in 2019. In 2023, Valley Water embarked on an effort to update the WSMP. This memorandum presents the framework of and progress on the development of the WSMP 2050 and a timeline for completing the plan.

Planning Goals
The WSMP 2050 establishes planning goals to guide what Valley Water intends to achieve. Valley Water's mission is to provide a safe and reliable water supply now and in the future. To that end and consistent with Board Ends Policies, the proposed planning goals of the WSMP 2050 are to:

- Ensure reliability and sustainability of the existing water supply system
- Diversify water supplies to meet the Level of Service goal
- Minimize the risk of shortage and disruption
-

Maintain affordable water rates through cost-effective water supply investments and management

Planning Approach
The WSMP 2050 extends the planning horizon to 2050, which strikes a balance between data availability and the uncertainty related to future conditions. This longer timeframe will enable the more of the benefits of large infrastructure projects to be captured, as they often take several decades to be fully implemented and functioning.

To account for uncertainty in forecasted future supply and demand and provide further flexibility in decision-making, a scenario planning approach is used to analyze four possible futures based on the combination of demand projections and forecasted imported water supplies:

- Stable demand and moderately impacted imported supplies
- Stable demand and severely impacted imported supplies
- High demand and moderately impacted imported supplies
- High demand and severely impacted imported supplies

The demand projections were developed from Valley Water's demand model as described in Attachment 1. The stable demand, representing low end, assumes demands stay flat at 2025 levels through 2050, in part owing to the success in making water conservation a way of life and mitigating the impacts of growth on water use. The high demand assumes significant impacts from growth and severe climate change. The forecasted countywide 2050 stable and high demands are approximately 330,000 acre feet per year (AFY) and 370,000 AFY, respectively. Both demands assume Valley Water achieves its long-term conservation goals and include forecasted demand for agriculture. Staff is currently developing proposals for 2050 conservation targets as part of the WSMP 2050 development.

The imported water baseline supply scenarios were selected from Department of Water Resources (DWR) modeling. The modeling assumes existing regulatory conditions and State Water Project (SWP) and Central Valley Project (CVP) infrastructure and takes into account climate change impacts. The moderately impacted imports scenario represents SWP and CVP deliveries with small impact from climate change, while the severely impacted imports scenario represents significantly impacted deliveries, particularly during droughts.

Baseline Needs Assessment Under Alternative Futures
Under each of the four future conditions, water supply needs under baseline condition (completion of planned local dam seismic retrofits by 2035, achieving long-term water conservation goals, and maintaining Valley Water assets) were assessed, to serve as the basis for identifying projects and programs for potential investment. Under all four futures, Valley Water will experience water shortages if relying only on existing supplies and infrastructure, and the biggest challenge for meeting water supply needs will be multi-year droughts. The shortages will start as early as 2030 in the future scenario of stable demand and severely impacted imported supplies. With Semitropic in place, the average shortages over a six-year drought in 2050 could range from 4,000 AFY to 76,000 AFY, and the shortages increase as demand increases and imported supplies decrease. If the Semitropic

contract is not renewed when it expires in 2035, the shortages could get worse, with a range from 30,000 AFY to 82,000 AFY. Valley Water's current system can handle the first two years of a multi-year drought, with shortage starting the third year. The projected shortages represent the targets that future water supply investment aim to meet to achieve Valley Water's LOS.

Projects Under Consideration
The WSMP 2050 will evaluate a total of 18 projects for meeting future needs/goals. For organizational purposes, these projects are grouped as shown in Table 1. More detailed description of each project is provided in Attachment 2.

Table 1 Projects Under Consideration

Project Type	Project
Alternative Supply	Potable Reuse - Palo Alto
	Potable Reuse - San Jose
	Refinery Recycled Project
	Local seawater desalination project
Surface Supply	Delta Conveyance Project
	Sites Reservoir
	Stormwater - Agricultural Land Recharge (FloodMar)
	Stormwater capture
Storage	Pacheco Reservoir Expansion
	Los Vaqueros Expansion
	Groundwater Banking
	B.F. Sisk Dam Raise
Recharge & Pipelines	Coyote Valley Recharge Pond
	Lexington Pipeline
	Lexington-Montevina Water Treatment Plant Connection
	Butterfield Channel Managed Aquifer Recharge
	Madrone Channel Expansion
	San Pedro Ponds Improvement Project

Valley Water's past and future water supply investments are designed to provide water supply benefits to the whole county. As such, major projects evaluated in the WSMP 2050 will provide benefit to the county as a whole. For instance, the purified water projects will provide new potable water to meet some of the demand, thereby freeing up imported water supplies to be used at recharge facilities throughout the county. The storage projects, including Pacheco expansion and B.F. Sisk Dam Raise, will allow Valley Water to store more surplus water during wet years and increase the flexibility to use those supplies more effectively during water shortages, such as droughts. To address water supply vulnerability in the South County, several projects in the South County are also being evaluated, including San Pedro Ponds Improvement Project and Agricultural Land Recharge

(FloodMar), to improve water supply reliability for that area and its agriculture community.

Project Evaluation and Portfolio Analysis
Project evaluation is a critical step in the WSMP 2050 development to identify the portfolios for recommendation. A list of 14 criteria (Table 2) was developed to evaluate and compare projects. Among the proposed criteria, the water supply benefit and cost will be the most important and therefore the first criteria to be used to evaluate projects and portfolios. Following that, the remaining criteria will be used to further differentiate among options. The project evaluation framework is intended to present a systematic and holistic approach to evaluate and ultimately recommend projects for selection within the context of the WSMP and financial constraints.

Table 2 Project Evaluation Criteria

Evaluation Criteria	Description
Water Supply Benefit	Quantifiable water supply benefits of the project
Cost/Rate Impact	Construction, planning/design, O&M, and other cost
Timing	The year the project will be in service
Technical Feasibility	Technical ability to implement the project
Operation	How the project operates, specifically how it connects to existing system and moves water around
Reliability	Reliability of the project in providing its primary benefits during periods of dry year need
Readiness/Likelihood of Success	The readiness of project implementation and chance of success
Flexibility	Operation/implementation across a wide range of conditions and whether it can enhance overall system flexibility
Jurisdiction/Partnership	Primary jurisdiction and partners of the project
Permitting/Legal Issues	Permits required and any legal Issues/concerns
Environmental Impacts/Justice	Anticipated positive or negative impacts on the natural environment and environmental justice
Public Acceptance	Public opinion and political support for the project
Inter-dependence	Whether the project will need other projects to be functioning or can magnify other projects
Risk/Challenges	Any significant risks/challenges that could potentially derail the project

Valley Water is currently working on the portfolio development and evaluation, to identify cost-effective solutions to address future water supply needs. On January 9th, 2024, staff will present an update to the Board. Following the meeting, staff will continue to refine and develop portfolios for the next few months and plans to bring another update to the Board in Spring 2024.

WSMP Update Timeline
The timeline for the plan development is as follows.

- **2023**
  - Establishment of overall framework and procedures
  - Project/portfolio analysis and evaluation
  - Stakeholder engagement

- **2024**
  - Portfolio analysis and recommendation
  - Plan development
  - Stakeholder outreach
  - Plan adoption

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Demand Projection
Attachment 2: Project Descriptions
Attachment 3: PowerPoint Presentation

UNCLASSIFIED MANAGER:
Kirsten Struve, 408-630-3138

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File No.: 23-0806

Agenda Date: 8/28/2023
Item No.: 4.4.

COMMITTEE AGENDA MEMORANDUM
Water Conservation and Demand Management Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Valley Water Demand Model and Forecast.

RECOMMENDATION:
Receive and discuss Valley Water demand model and forecast.

SUMMARY:
As part of the Water Supply Planning program, Valley Water developed and maintains an econometric-based demand model. A reliable water demand forecast is needed to determine the level of investment necessary to meet Santa Clara County's future water supply needs. This memorandum summarizes Valley Water's demand modeling approach and provides the demand forecasts Valley Water proposes to use in its Water Supply Master Plan 2050.

Demand Model Approach
Valley Water's demand modeling integrates the understanding of historic water use trends, housing and economic growth, climate change, and post-drought water use rebound. The model was developed, calibrated, and validated using historic datasets, including sectoral water use provided by the retailers (e.g., residential, commercial, etc.), independent well owner pumping, weather, economic parameters, and housing information (Attachment 1).

The demand model is segmented by billing group (e.g., individual retailers, independent pumpers grouped by groundwater management zone, and agricultural users grouped by management zone). Each retailer is then further segmented into single family, multi-family, and commercial, industrial, and institution (CII) sectors. An econometric equation developed using historic datasets was created for each model segment. The model combines the segment-level equations with projected growth, climate, economic, and drought rebound parameters to forecast Santa Clara County demands. Given the uncertainty in each of the projected parameters, Valley Water is proposing to use a demand range for its Water Supply Master Plan 2050 analyses.

Forecasted Water Use

Valley Water used forecast information on housing and economic growth from the Association of Bay Area Governments (ABAG) Plan Bay Area 2040 and city general plans. Water rate forecasts were provided by the Valley Water Protection and Augmentation of Water Supplies (PAWS) analyses. Climate change data from global climate models were downscaled for Santa Clara County. Valley Water also included a drought rebound assumption that considered the muted rebound seen during the 2012-2016 drought and the Board of Directors (Board) June 2023 resolution to make water conservation a way of life.

Forecasted county-wide 2050 demands for Valley Water range from approximately 330,000-425,000 acre-feet per year (AFY) if Valley Water does not achieve its long-term water conservation goal of 110,000 AFY by 2040. If Valley Water achieves its conservation goal by 2040, then forecasted demands range from approximately 330,000 AFY-390,000 AFY. The lower bound, which is the same with and without conservation forecasts, assumes demands stay constant at 2025 levels through 2050, in part owing to the success in making water conservation a way of life and mitigating the impacts of growth on water use. From a historical perspective, water use dropped 25% in the last 5 years (from 148 gallons per person per day in 2017 to 111 gallons per person per day in 2022). In addition, the county population increased by 25% over the past 30 years, while water demand has decreased by about 8% in that time (1990-2020). The higher bound demand is significantly impacted by severe climate change and growth. As part of the Water Supply Master Plan update, Valley Water is developing a 2050 conservation target and will bring it to the committee for review when ready; thus, no conservation is accounted for between 2040-2050 in the reported forecasts.

Next Steps

Valley Water will continue to track growth, economic, and climatic factors that can impact demands and update forecasts as needed. Valley Water plans to use the demand forecast data in water supply modeling that will inform Water Supply Master Plan 2050 investment recommendations.

ENVIRONMENTAL JUSTICE IMPACT:

There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:

Attachment 1: Demand Model Development
Attachment 2: PowerPoint Presentation

UNCLASSIFIED MANAGER:

Kirsten Struve, 408-630-3138

March 2, 2020

To: Samantha Greene, Ph.D.

From: Luke Wang
Jack Kiefer
Kinsey Hoffman
Leah Bensching

cc: Jing Wu, Metra Richert, Jessica Lovering

Technical Memorandum 3

Modeling Approach and Development

Introduction

Santa Clara Valley Water District (Valley Water) has developed a new model to forecast total water demand in Santa Clara County. Demand projections from the model will be used to support several planning initiatives and documents including:

- The 2021 Urban Water Management Plan (UWMP);
- Monitoring of and updates to the Water Supply Master Plan;
- Inputs to Valley Water's water supply planning model; and
- Evaluation of conservation programs and capital projects.

Valley Water manages a diverse portfolio of water supplies to provide water to Santa Clara County's 13 water supply retailers and non-retailer groundwater pumpers.[1] The majority of water users in Santa Clara County are customers of the water supply retailers. As a result, each retailer typically develops their own water demand forecasts. These forecasts are useful and have been used to inform Valley Water's prior UWMPs. However, Valley Water is responsible for County-wide water resource planning activities (e.g., groundwater management, treated water production, potable reuse development, surface water infrastructure management and development, and active conservation program implementation); collectively, these activities are better served by a consistent modeling approach and planning assumptions across the service area.

The purpose of this Technical Memorandum (TM 3) is to document the modeling approach selected to develop Valley Water's updated demand model. Major characteristics of the modeling approach include a statistical/econometric analytical framework, differentiation of rates of water use from drivers of growth, and model segmentation based on geography (e.g., retail agency), time of year, and water use sector. TM 3 also includes a summary of the statistical model fits and performance compared to historical

[1] Non-retail groundwater pumpers include private well owners that are outside of retailers' service areas.

observations of water consumption. Discussions of model fits and performance are organized based on water use sector segmentation and includes the following sectors:

- Single family;
- Multifamily;
- Commercial, Industrial, and Institutional (CII); and
- Non-retailer groundwater pumpers.

The model sectors are designed to establish baseline demand projections without considering additional future water conservation. Projections of future conservation savings are generated separately by Valley Water's water conservation model and then deducted from the baseline projections generated for the model sectors described herein.

Table of Contents

1. Modeling Approach

Valley Water's demand model is organized following the demand forecasting typology identified in TM 1.[2] This section provides a general overview of this approach to establish context for detailed discussions on model development in Sections 2 – 5 of this TM.

1.1 Model Segmentation

The demand model was segmented based on type of provider, i.e., retail agency or non-retail groundwater pumper. Within each provider type, the model was further segmented by geography, sector/billing classification, and time of year. For retail provided water, model geographies were based on each retail agency's service area within Santa Clara County. Billing classifications often differed among retail agencies necessitating standardization of billing classifications into common sectors (e.g., single family, multifamily, commercial, industrial, and institutional). Appendix A provides a detailed summary of the billing classifications for each retail agency, and the standardized sectors used for modeling; Valley Water directly solicited the retail agencies for input in standardizing billing classifications, particularly for classes that have the potential to span across multiple water use sectors (e.g., landscape irrigation and recycled water). Non-retail groundwater pumpers were organized geographically by groundwater basin charge zone, including W2 (representing the Santa Clara Plain sub-basin management area) and W5 (representing the Llagas sub-basin and Coyote Valley sub-basin management area). Water use classifications for non-retail groundwater pumpers are consistent across each charge zone and include agricultural, municipal, and domestic water use types. These water use classifications were ultimately organized into two model sectors, Municipal and Industrial (M&I) and Agricultural (Ag).

The retail agency demands were modeled using a monthly timestep, and non-retail groundwater pumper demands were modeled using an annual timestep. Non-retail groundwater pumper annual demands were then post-processed to monthly demands using a monthly distribution. Figure 1-1 further details the hierarchical structure of model segmentation.

[2] Technical Memorandum 1: Benchmark Analysis of Regional Demand Projection Models.

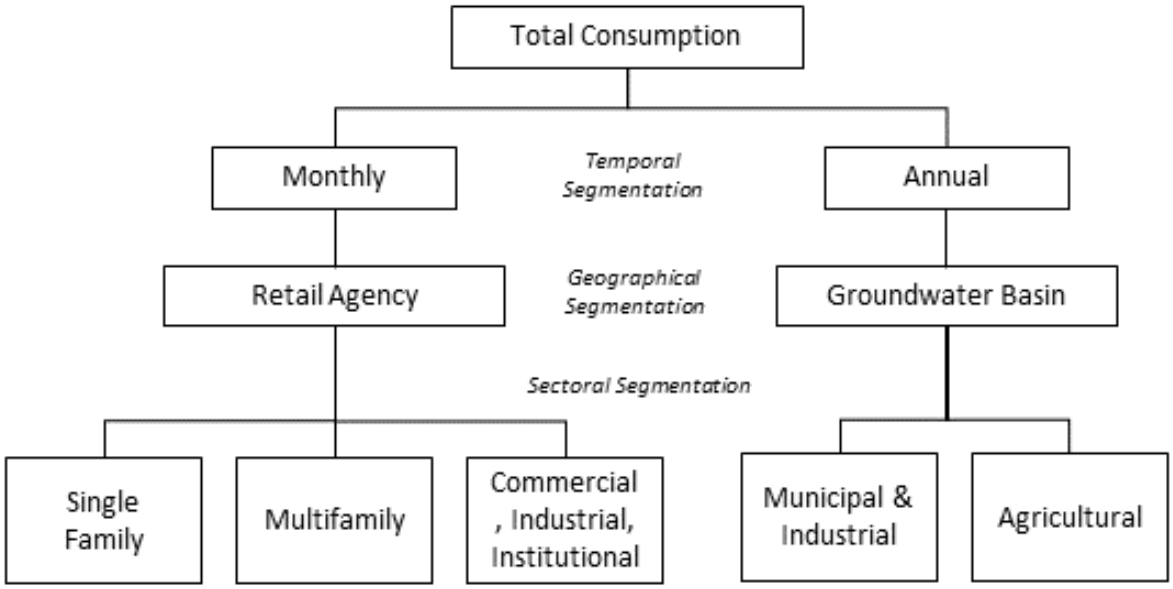


Figure 1-1: Hierarchy of Model Segmentation

1.2 Rate of Use Differentiation

Rate of use differentiation (i.e., characterizing consumption to reflect water using intensity) was applied in developing the retailer models. Rates of use were calculated given Equation (1) below, where for any given model sector *Q* reflects volumetric consumption, *N* is the count of driver units, and *q* is the rate of water use per driver unit.

$$Q \equiv N * \frac{Q}{N} \equiv N * q \quad (1)$$

Rate of use differentiation requires a reliable and consistent historical driver unit dataset for model development and a corresponding future dataset representing projected driver unit counts. Consistent and reliable driver unit datasets for the retailer models were developed using data from the California Department of Finance (CADOF; historical data) and the Association of Bay Area Governments (ABAG; future projected data).[3] Corresponding driver units were not available for the non-retailer groundwater pumpers, so models were developed on a volumetric basis. Table 1-1 documents the driver units and corresponding rate of use for each retail model sector.

Table 1-1: Driver Units and Rate of Use for Each Retail Model Sector

Model Sector	Driver Unit (*N*)	Corresponding Rate of Use (*q*)
Single Family Multifamily	Housing units	Consumption per housing unit
CII	Employees	Consumption per employee
CII (Stanford)	Population	Consumption per capita

[3] Refer to Technical Memorandum 2: Data Collection and Review (TM 2).

1.3 Method / Statistical Approach

Valley Water collected historical consumption data from its retail agencies,[3] which generally spanned the period 2000-2018.[4] This dataset was sufficient from temporal, geographical, and sectoral perspectives (following sectoral standardization) to explore fitting customized statistical / econometric models identified in TM 1.[2] Development of historical econometric models provide a strong analytical benefit in forecasting demand, as they allow for the estimation of cause-effect relationships between weather, price, socioeconomic, and other factors that lead to variability in water demand. Quantifying these causal relationships allows for analysis of "what-if" scenarios that are uncertain, but important to consider for planning (e.g., climate change, development patterns, drought recovery).

Development of statistical / econometric models is an iterative process. Figure 1-2 and Table 1-2 outline the process used to fit the econometric models.

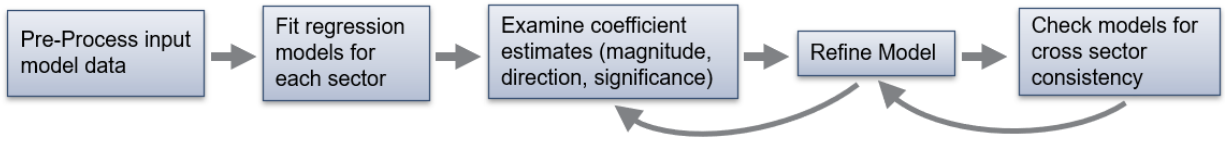


Figure 1-2: Process for Developing Statistical / Econometric Models

Table 1-2: Description of Model Fitting Procedures

Model Fitting Procedure	Description
Pre-process model input data[(a)]	Conduct necessary pre-processing calculations prior to model fitting, e.g.: • Geographical processing of driver units. • Calculate per-unit use. • Calculate natural logarithms of per-unit use and appropriate predictors. • Calculate departures from normal conditions for appropriate predictors (i.e., economic trend and weather). • Calculate any index, "dummy", or interacted parameters (e.g., seasonal cycle, geography, drought severity). • Smoothing monthly and bimonthly data to adjust for irregular billing cycles.
Fit regression models for each sector	Use statistical estimation software (e.g., R, SAS, EViews) to fit linear regression equations to per unit use with the initially selected predictor variables.
Examine coefficient estimates and measure of fit	Check measures of fit (e.g., R^2) and coefficient estimates for reasonable magnitude, direction/sign, and significance.
Refine model to improve measures of fit and coefficient estimates	If the model fit is poor or if coefficient estimates are illogical or insignificant, several actions can be taken, including but not limited to: • Identifying and removing outlier data points that have significant leverage on coefficient estimates. • Remove predictors with insignificant or illogical coefficient estimates from the regression equation. • Testing alternate specifications of predictor variables.
Check models for cross-sector consistency	Model fits and predictors are compared across sectors to judge estimates relative to prior expectations; e.g., testing if the relative effects of price and socioeconomic variables vary by sector in a logical way based on past experience.
[(a)] Model data pre-processing is detailed in TM 2.	

[4] Retail agencies submitted historical billing records of varying lengths. Sufficient retailers submitted records from 2000-2018 to establish model fits over the time period.

1.4 Summary of Model Predictors

Several model predictors were used to develop Valley Water's demand model. To be considered for use, potential predictors needed to pass the following conceptual criteria:

- Logical connection to explaining changes in water consumption;
- Historical record consistent with the time series of observed water consumption; and
- Availability of future projections consistent with the desired forecast horizon (i.e., 2020-2045) or a reasonable basis for assuming or generating projected values.

Initial selection of model predictors is discussed in detail in TM 2. However, during the model fitting process, derivatives of initial variables were also developed and included in subsequent model equations. One example is time lags on weather variables; supplementary variables were created from the temperature and precipitation time series at one to three-month lags. These lagged weather variables aimed to capture a delayed or persistent response in water use. A second example is an extended drought effect variable. The initial drought variables were directly calculated from historic water use restrictions. A supplemental drought variable was created that extended the last historic occurrence of mandatory water restrictions (2017) through the end of the historic dataset (2019); this "extended drought effect" variable was considered to represent inertia in behavioral changes in water use after the water use restrictions were no longer in place (i.e., delayed drought rebound). Table 1-3 details the predictors used to develop the demand models and identifies the expected sign and magnitude of the coefficient estimates resulting from the linear regression.

Table 1-3: Description of Demand Model Predictors

Predictor Variable	Log Transformed?	Expectations about Coefficient Estimates	Description
Departure from normal temperature[(a)]	Yes	Positive sign	Represents difference from long-term temperature. Higher than normal temperatures are associated with higher demands.
Departure from normal precipitation[(a)]	Yes	Negative sign	Represents difference from long-term precipitation. Higher than normal rainfall is associated with lower demands.
Seasonal index	No	Larger absolute magnitudes for agencies with greater seasonal peaking	Reflects the cyclical pattern in water use where demands a generally higher in the summer and lower in the winter. Represented in the model as a sine / cosine pair of variables.[(b)]
Price	Yes	Negative sign with absolute value between 0 and 1	Economic theory suggests negative correlation with demand.
Economic index	Yes	Positive sign	Several economic indices were explored as potential predictors[(c)] with the detrended Economic Cycles Research Institute (ECRI) selected as the index that produced the most reasonable coefficient estimates across model sectors. Water demand is positively correlated with economic fluctuations of the business cycle. The index is modeled in form of departures from long-term trend.
Housing density	Yes	Negative sign (commonly with absolute value between 0 and 1)	Housing density is negatively correlated with demand; on average, residences with more units per acre (or smaller parcel sizes) tend to use less water on outdoor uses.
Median income	Yes	Positive sign (commonly with absolute value between 0 and 1)	Economic theory suggests positive correlation of income with demand; generally geographical areas with higher median incomes tend to use more water.
Persons per household	Yes	Positive sign (commonly with absolute value between 0 and 1)	Positively correlated with demand; generally, residences with more people tend to use larger amounts of water.
Mix of Industries / economic activity[(d)]	Yes	N/A	The representation of industries / economic activity with a geographical area is related to the amount of water used within the CII sector. Fitted parameters for these variables are generally unique by utility, thus there is no generally accepted range of coefficient estimates.
Drought Severity	No	Negative sign	Reflects the effect of drought restrictions from the most recent drought (2014-2017, with extended restrictions though 2019) on water demand.[(e)] Defined as the presence of drought restrictions (represented as a binary) multiplied by the requested cutback (e.g. 0-30%).

[(a)] Lagged values of temperature and precipitation were also evaluated and included as model predictors as the influence of weather on water demand can persist several months.

[(b)] Most sectors have a single sine/cosine pair representing the seasonal cycle, except for Stanford. Stanford has two sine/cosine pairs to capture seasonal effects associated with the academic calendar. See Section 4.3 for additional discussion.

[(c)] Other economic indices explored as potential predictors are documented in TM 3.

[(d)] Detail on the derivation of specific predictors representing mix of industries / economic activity is documented in TM 3.

[(e)] A unique prediction variable was also evaluated for the 2008-2011 drought but was dropped during the model development process as the coefficient estimate was not statistically significant. The 2008-2011 drought overlapped with the severe economic downturn of the Great Recession which likely mutes its statistical significance.

2. Single Family Regression Development

This section reviews the development of the statistical regression for the single family residential sector.

2.1 Model Predictors and Fitted Coefficients

The fit for the final single family regression is presented in Table 2-1. Coefficient estimates are within the expected range for all explanatory variables.

Table 2-1: Single-Family Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	3.821	0.324	11.776	<0.05
Seasonal index 1[(a)]	-0.283 (avg) -0.045 to -0.185	0.013 (avg) 0.008 to 0.026	-24.086 (avg) -7.379 to -24.086	<0.05
Seasonal index 2[(a)]	-0.262 (avg) -0.616 to -0.064	0.013 (avg) 0.008 to 0.026	-23.026 (avg) -44.960 to -3.786	<0.05
Departure from normal temperature	1.008	0.135	7.464	<0.05
Departure from normal temperature, 1-month lag	0.824	0.137	5.997	<0.05
Departure from normal temperature, 2-month lag	0.354	0.137	2.583	<0.05
Departure from normal temperature, 3-month lag	0.306	0.127	2.413	<0.05
Departure from normal precipitation	-0.008	0.003	-3.01	<0.05
Departure from normal precipitation, 1-month lag	-0.009	0.003	-3.649	<0.05
Departure from normal precipitation, 2-month lag	-0.004	0.003	-1.582	0.114
Price	-0.085	0.009	-9.942	<0.05
Economic index	0.945	0.101	9.316	<0.05
Housing density	-0.406	0.007	-60.745	<0.05
Median income	0.195	0.025	7.778	<0.05
Persons per household	0.473	0.04	11.907	<0.05
Drought severity, extended	-1.506	0.048	-31.109	<0.05

[(a)] Seasonal indices are unique to each retail agency.

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, median income, and persons per household. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, housing density, and the extended drought effect.

2.2 Historical Model Performance

Figure 2-1 shows the observed and predicted per-unit use for the single family sector in gallons per unit per day (gpud) calculated as a unit-weighted average across all retail agencies. Performance of the single family regression is summarized in Table 2-2 which shows performance metrics for unit-weighted average County-wide demand. Visual inspection of the time series plot and review of the model fit parameters showed good performance at the County-wide level, including strong agreement with the observed seasonal cycle and ability to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the single family regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix B.

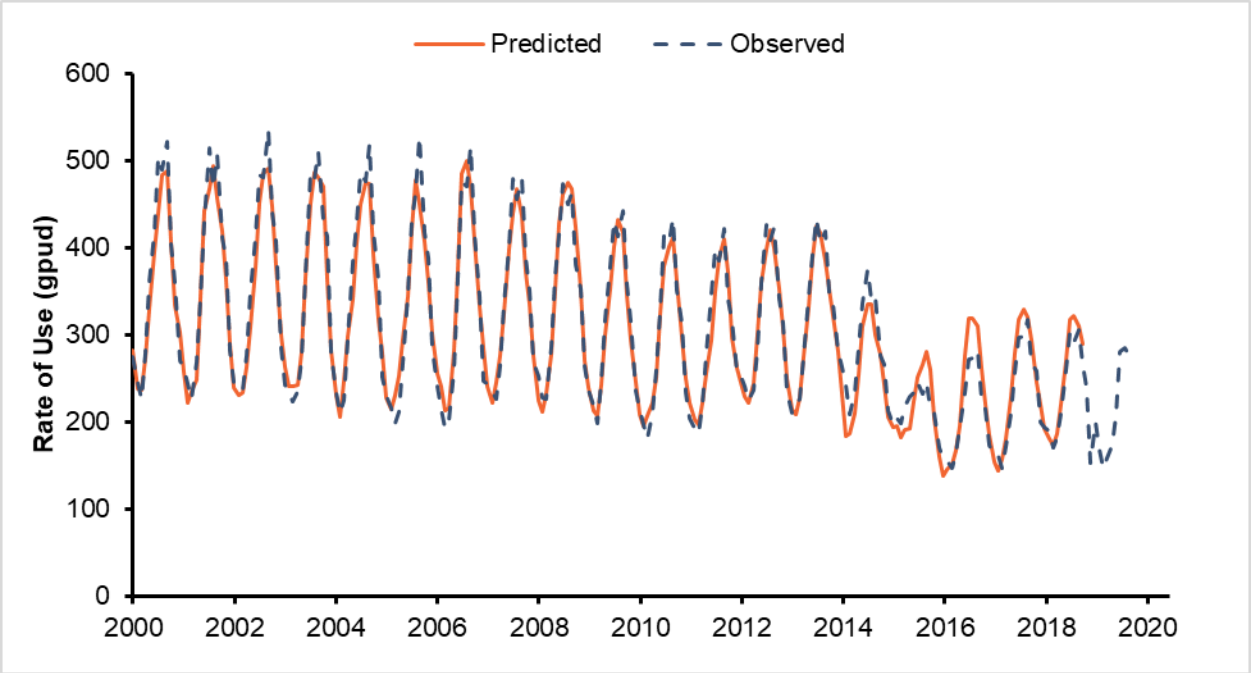


Figure 2-1: County-Wide Single-Family Observed and Predicted Per Unit Rate of Use

Table 2-2: County-Wide Single-Family Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.95
Average Observed Value (gpud)	305.71
Mean Absolute Percentage Error	5.82%
Mean Bias	-1.13%

[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.

3. Multifamily Regression Development

This section reviews the development of the statistical regression model for the multifamily residential sector.

3.1 Model Predictors and Fitted Coefficients

The fit for the final multifamily regression is presented in Table 3-1. Though most predictors are the same as the single family sector, several predictors (e.g., median income and 2-month lagged departure from precipitation) were dropped and certain predictors (e.g., the intercept term and drought severity) were allowed to vary by retail agency. These modifications to the model design resulted in stronger measures of fit and more reasonable coefficient estimates. Final coefficient estimates presented in Table 3-1 are within the expected range for all explanatory variables.

Table 3-1: Multifamily Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	5.209	0.074	70.141	<0.05
Agency-specific intercepts[a]	-0.223 (avg) -0.719 to 0.280	0.013 (avg) 0.007 to 0.023	-31.555 (avg) -104.09 to 15.203	<0.05
Seasonal index 1[b]	-0.161 (avg) -0.372 to -0.056	0.012 (avg) 0.006 to 0.031	-16.311 (avg) -35.651 to -3.872	<0.05
Seasonal index 2[b]	-0.138 (avg) -0.255 to -0.056	0.012 (avg) 0.006 to	-13.943 (avg) -29.588 to -13.943	<0.05
Departure from normal temperature	0.488	0.098	4.974	<0.05
Departure from normal temperature, 1-month lag	0.514	0.100	5.155	<0.05
Departure from normal temperature, 2-month lag	0.397	0.094	4.226	<0.05
Departure from normal temperature, 3-month lag	0.194	0.092	2.101	<0.05
Departure from normal precipitation	-0.002	0.002	-1.127	0.260
Departure from normal precipitation, 1-month lag	-0.006	0.002	-2.954	<0.05
Price	-0.055	0.013	-4.347	<0.05
Economic index	1.568	0.091	17.226	<0.05
Housing density	-0.205	0.011	-18.105	<0.05
Persons per household	0.900	0.057	15.788	<0.05
Drought severity, extended[c]	-0.718	0.044	-16.294	<0.05

[a] Several agencies including San Jose Water Company, San Jose Municipal Water, Great Oaks Water Company, City of Gilroy, California Water Service, and the City of Sunnyvale were fitted with agency-specific intercept terms in order to optimize historical model performance.

[b] Seasonal indices are unique to each retail agency.

[c] Recorded drought severity coefficient estimate is for all agencies except San Jose Water Company, which was fitted an agency-specific drought severity coefficient.

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, and persons per household. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, housing density, and the extended drought effect.

3.2 Historical Model Performance

Figure 3-1 shows the observed and predicted per-unit use for the multifamily sector in gpud calculated as a unit-weighted average across all retail agencies.[5] Performance of the multifamily regression is summarized in Table 3-2 which shows performance metrics for unit-weighted average County-wide demand. Visual inspection of the time series plot and review of the model fit parameters showed good model performance at the County-wide level, including strong agreement with the observed seasonal cycle and ability to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the multifamily regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix C.

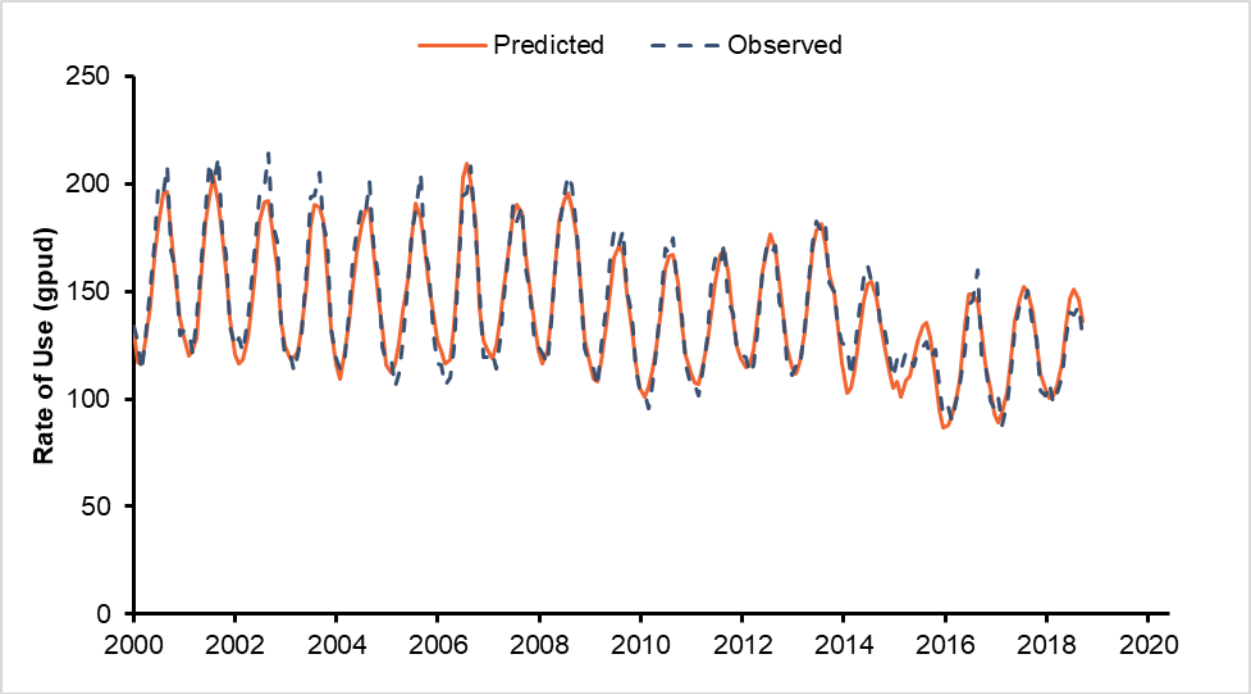


Figure 3-1: County-Wide Multifamily Observed and Predicted Per Unit Rate of Use

[5] Figure 3-1 excludes an outlier monthly observed datapoint for a single retail agency.

Table 3-2: County-Wide Multifamily Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.94
Average Observed Value (gpud)	142.26
Mean Absolute Percentage Error	4.53%
Mean Bias	-0.87%
[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.	

4. CII Regression Development

This section reviews the development of the statistical regression for the CII sector. Distinct regressions representing the commercial, industrial, and institutional water use sectors[6] were initially considered. However, different billing classification schemes among retail agencies introduced definitional uncertainty in sectoral water use and driver units. For example, certain agencies lacked a distinct industrial billing classification while others combined commercial and institutional categories. Additional verification of water use at the account-level was not possible given the data constraints for this project.[7] In response to these constraints and uncertainties, total use within the commercial, industrial, and institutional sectors was consolidated into a single composite CII regression. The benefit of combining these sectors is a more parsimonious representation with respect to number of sectors, while providing a means to use the mix of industries to explain CII water use variability across retail agencies.

4.1 Model Predictors and Fitted Coefficients

Model predictors for the final CII regression equation along with their statistics are in Table 4-1. Note that understanding/quantifying the types of economic activity occurring within the County are important to understanding changes in CII consumption over time. Since individual regressions for the commercial, industrial, and institutional sectors were not developed, predictor variables representing the relative proportion of employment among different industry groupings was used in the CII regression. Proportional employment based on industry grouping is meant to reflect the relative mix of industries / economic activity within each retail agencies' service area. Most CII model predictors are similar to those used for the single family and multifamily sectors, however certain variables (e.g., 3-month lagged departure from normal temperature) were excluded during the regression refinement process. Final coefficient estimates presented in Table 4-1 are within the expected range for all explanatory variables.

[6] Refer to Appendix A for a summary of standardized sectors by retail agency.

[7] The finest spatial resolution of all consumption data was at the retail agency-level.

Table 4-1: CII Regression Predictors and Coefficients

Variable	Coefficient	Standard Error	t-Statistic	Probability
Intercept	-0.186	0.268	-0.695	0.49
Seasonal index 1[(a)]	-0.29 (avg) -0.41 to -0.17	0.02 (avg) 0.01 to 0.03	-20.79 (avg) -33.3 to -9.2	<0.05
Seasonal index 2[(a)]	-0.34 (avg) -0.53 to -0.10	0.02 (avg) 0.01 to 0.03	-23.34 (avg) -39.2 to -3.5	<0.05
Departure from normal temperature	1.037	0.158	6.580	<0.05
Departure from normal temperature, 1-month lag	0.912	0.161	5.657	<0.05
Departure from normal temperature, 2-month lag	0.370	0.158	2.340	<0.05
Departure from normal precipitation	-0.003	0.003	-0.997	0.32
Departure from normal precipitation, 1-month lag	-0.007	0.003	-2.312	<0.05
Departure from normal precipitation, 2-month lag	-0.002	0.003	-0.692	0.49
Price	-0.062	0.025	-2.453	<0.05
Economic index	0.963	0.140	6.881	<0.05
Proportion of total Employment (Retail)	0.142	0.032	4.430	<0.05
Proportion of total Employment (Professional Services)	0.499	0.031	16.065	<0.05
Proportion of total Employment (Information, Government, and Construction)	0.093	0.026	3.508	<0.05
Proportion of total Employment (Industrial)	0.351	0.026	13.249	<0.05
Proportion of total Employment (Health Education, and Recreational Services)	0.466	0.059	7.923	<0.05
Drought severity, extended	-1.424	0.070	-20.232	<0.05
[(a)] Coefficients vary by retailer.				

Variables with an increasing effect on water use (i.e., a positive coefficient) included temperature, economic index, and the mix of industries/economic activity ratios. Variables with a decreasing effect on water use (i.e., a negative coefficient) included precipitation, price, and the extended drought effect.

4.2 Historical Model Performance

Figure 4-1 shows the observed and predicted per-unit use for the CII sector in gallons per employee per day (gped) calculated as a unit-weighted average for across all retail agencies. Performance of the CII model is summarized in Table 4-2 which shows regression performance metrics for county wide demand. Visual inspection and performance metrics showed good model performance including the same seasonal cycle and quantities. The CII regression was also able to reproduce declining consumption during the Great Recession, recovery between the Great Recession and the recent drought, and the sharp decline and muted recovery following the most recent drought.

Historical performance of the CII regression was also strong at the retail agency-level. Model fit statistics calculated at the retail agency-level generally mirrored County-wide performance. Model fit statistics and time series plots for each retailer are presented in Appendix D.

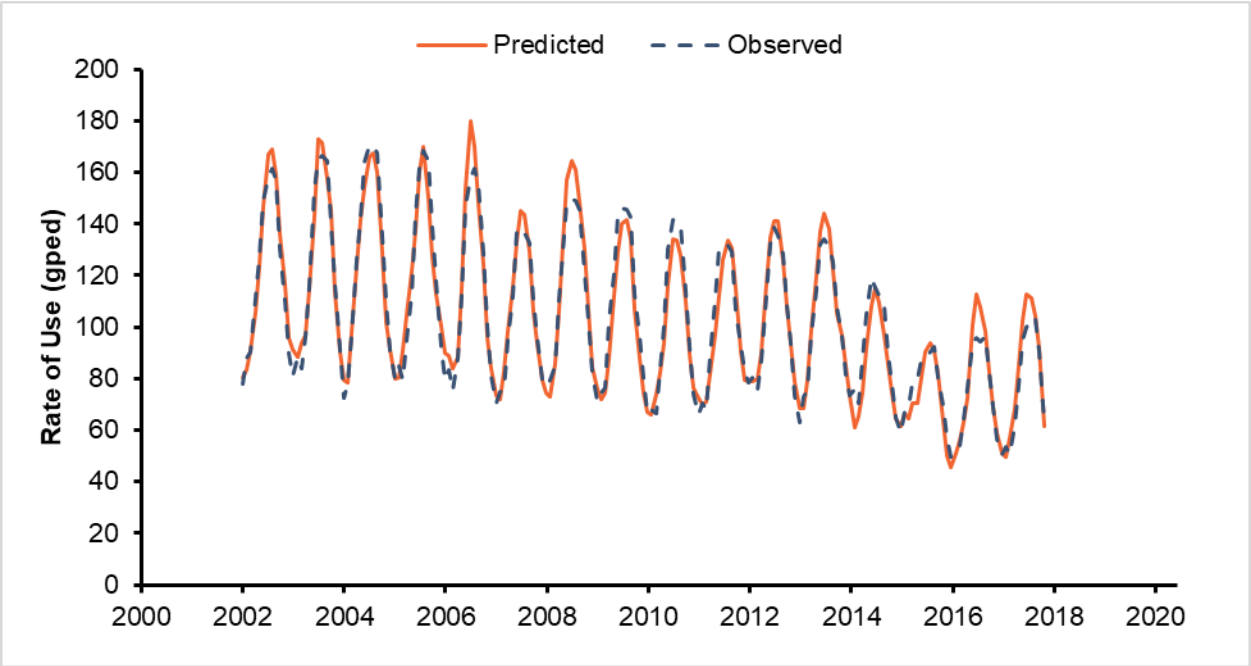


Figure 4-1: CII Observed and Predicted Rate of Use

Table 4-2: County-Wide CII Regression Performance Metrics

Regression Statistic[(a)]	Value
R-squared	0.96
Average Observed Value (gped)	103.89
Mean Absolute Percentage Error	5.08%
Mean Bias	-0.06%
[(a)] Statistics calculated using County-wide unit-weighted average observations and predicted values from the regression fits.	

4.3 Stanford University Regression Development

As an academic institution, Stanford University (Stanford) is considered part of the CII sector. However, an independent regression for Stanford was developed given its unique characteristics among retailers. Unlike other retail agencies, Stanford does not have accounts in the traditional sense as individual users are not billed. Additionally, employee water use as the sole driver unit (consistent with the CII sector for other retailers) is not appropriate for Stanford as students account for a significant portion of water use. This distinction informed the decision to use population (understood to be total faculty, staff, and students) as the driver unit for Stanford. Since the driver unit for the Stanford CII model was population, rather than jobs like the rest of the retailers' CII use, rate of use must be modeled separately. It is expected that the significant variables and/or magnitudes of coefficients would be different for Stanford than the other retailers' CII sectors due to the difference in driver units. A discussion of Stanford's regression predictors and fitted coefficients is presented in Appendix E. A summary of the Stanford's historical model performance is included in Appendix D.

5. Non-Retail Groundwater Pumper Regression Development

Historic water use for non-retail groundwater pumpers includes groundwater use by private well owners that are outside of retailers' service areas. Historic groundwater use was reported by groundwater basin and billing classification. The groundwater basins include Santa Clara Plain (referred to as charge zone "W2") as well as Coyote Valley sub-basin management area and the Llagas sub-basin and (referred to as charge zone "W5"). Water use was classified as either agricultural or municipal/industrial (M&I). M&I can include residential domestic water use.

Historical regression fits for non-retail groundwater pumpers were performed on annual water use. Agricultural water use was typically reported annually or semi-annually. M&I use was reported monthly or semi-annually. As a result, a monthly resolution for model fitting was not possible.

Further, historical model fits for non-retail groundwater pumpers were performed on a volumetric basis. Typical driver units for groundwater use, such as number of wells, did not support the "rate of use times driver" approach that was used for single family, multifamily, and CII model development.

Fitted models were only finalized for the M&I sector for the two groundwater basins. Agricultural use was often reported semi-annually (in January and July) and was estimated by a "table of averages" approach based on crop type, resulting in a lack of variability that could be modeled by predictor variables. Initial exploration of statistical/econometric model development showed that agricultural water use has been generally constant over the last twenty years and was not well-characterized by typical predictor variables.

5.1 Model Predictors and Fitted Coefficients

Model predictors for the non-retail groundwater pumpers M&I regression models along with their statistics are in Table 5-1. The two groundwater zones were modeled separately; a combined regression provided no improvement in the statistical significance of coefficients.

Table 5-1: Predictors for Non-Retail Groundwater Pumpers M&I Regression.

Basin	Variable	Coefficient	Std. Error	t-Statistic	Prob.
W2	Intercept	-0.59	4.08	-0.14	0.89
	Drought	-0.70	0.20	-3.54	<0.05
	Price	-0.81	0.06	-13.31	<0.05
	Temperature[(a)]	1.83	0.93	1.98	0.07
W5	Intercept	1.43	0.47	3.04	<0.05
	Number of Wells	0.19	0.04	5.56	<0.05
	Drought	-0.31	0.15	-2.09	0.06
	Price	-0.12	0.05	-2.41	<0.05
	Precipitation[(a)]	-0.09	0.02	-3.62	<0.05

[(a)] Temperature and precipitation for non-retail groundwater pumper models were in absolute terms, not departures from normal.

Variables with an increasing effect on water use (i.e., positive coefficient) included maximum temperature (used in the W2 model only) and number of wells (used in the W5 model only). Variables with a decreasing effect on water use (i.e., negative coefficient) included the extended drought effect,

price, and precipitation (used in the W5 model only). Economic indices, density, and median income were not found to be statistically significant for the groundwater M&I regressions. Note that temperature was found to be statistically significant for the W2 charge zone but not for the W5 charge zone regression, while precipitation was found to be statistically significant for W5 but not W2.

5.2 Historical Model Performance

Performance of the groundwater M&I regressions is summarized in Table 5-2. Figure 5-1 and Figure 5-2 show the observed and predicted demand for the M&I sector for groundwater charge zone W2 and W5, respectively. The M&I W5 regression had a lower correlation coefficient than all other model fits described in this TM, likely due to the relatively constant annual average water use over the available period.

Table 5-2: Regression Performance Metrics for Groundwater M&I Models

Regression Performance Metric	M&I, W2	M&I, W5
R-squared	0.96	0.81
Average Observed Value (mgd)	7.81	7.68
Mean Absolute Percent Error	4.32%	3.54%
Mean Bias	-0.22%	-0.09%

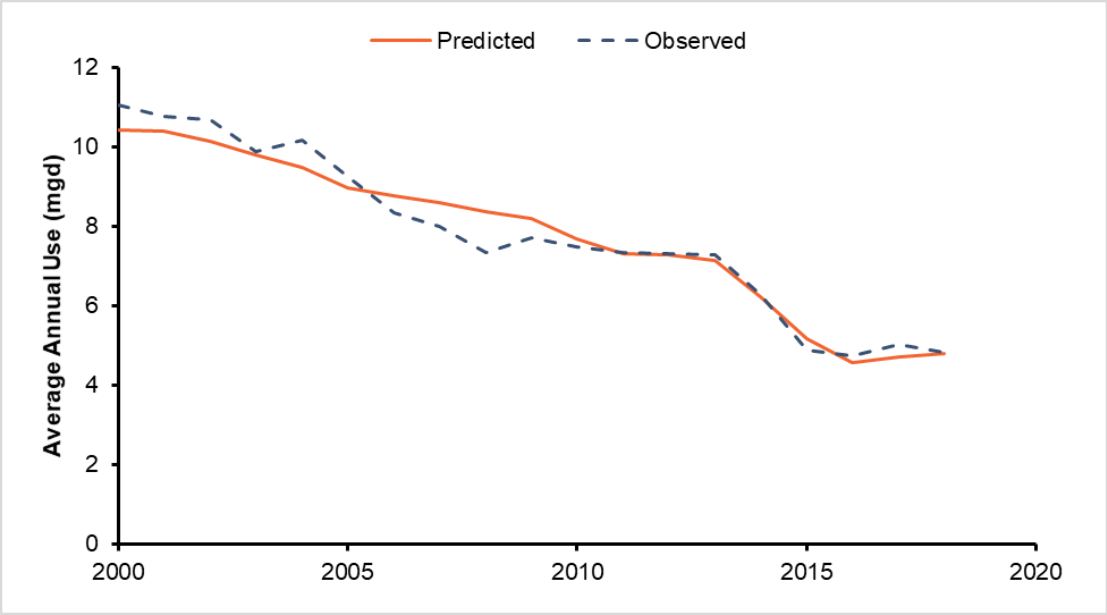


Figure 5-1: Observed and Predicted M&I Demand for Groundwater Basin W2

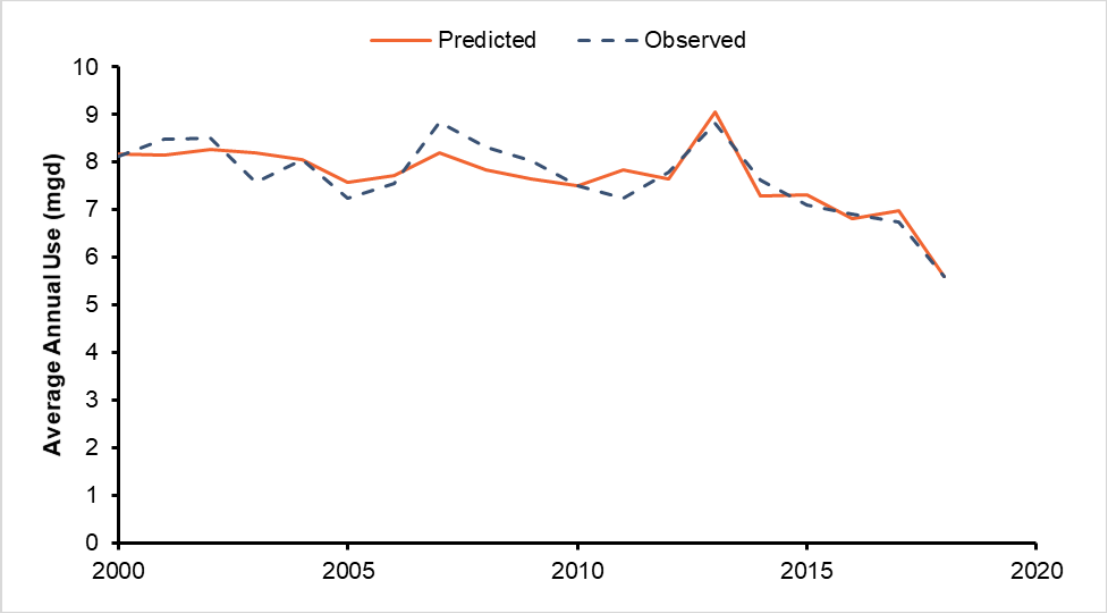


Figure 5-2: Observed and Predicted M&I Demand for Groundwater Basin W5

Figure 5-3 shows historic agricultural water use for the W2 and W5 charge zones. Agricultural water use in the W2 charge zone is less than 1 mgd and has been slightly declining over the last twenty years. Agricultural water use in the W5 charge zone has been generally constant over the last twenty years at approximately 23 mgd. Initial exploration of statistical/econometric model development showed that agricultural water use was not well-characterized by typical predictor variables. Agricultural water use in both charge zones would be well-represented by an average water use from a historical reference period that is then held constant into the future.

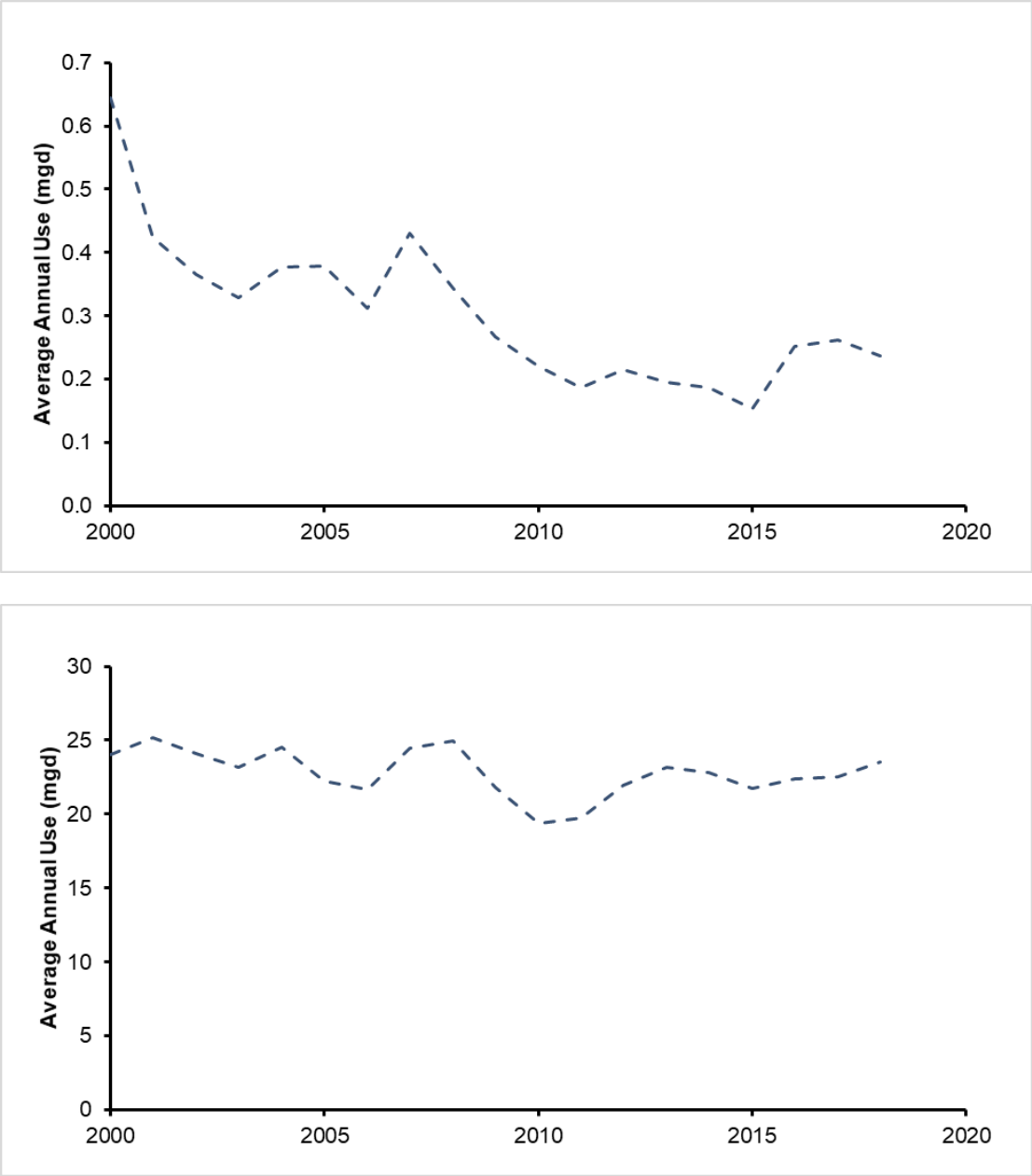


Figure 5-3: Observed Agricultural Demand for Groundwater Basin W2 (top) and W5 (bottom)

6. Summary / Conclusions

In summary, the statistical/econometric regressions presented in TM 2/4 show strong performance is explaining historical patterns of consumption over the last 20 years, including two major droughts and the Great Recession. All regressions had R-squared values of 0.81 or greater. The retailer-specific regressions, which represent the majority of water use in the County, had R-squared values of 0.94 or greater. None of the regressions demonstrated a large consistent bias. Based on this analysis, the regression reflect a suitable basis for forecasting.

The overall model approach allows for demand forecast scenario analysis based on varying assumptions of future conditions. Several forecast scenarios may be explored, including climate change-adjusted weather, alternate assumptions around the timing and magnitude of drought recovery, alternate assumptions around urban development, and/or different assumptions around future economic conditions. For any of these future scenarios, the model coefficients developed in this TM should be maintained as they reflect the best fitted estimates of causal relationships between external socioeconomic conditions and historical water demand given the available modeling data. Model scenarios can also be developed to address uncertainties in future predictor variables, such as housing / job growth and density. Future inputs in these scenarios could be conducted as a sensitivity analysis or be driven by alternate growth projections.

On a regular basis, overall model performance should be evaluated. Annually, forecasted consumption and input assumptions (e.g., driver unit counts, economic conditions, water rates, etc.) can be compared with observed conditions as data becomes available to monitor predictive performance. Less frequently (around every 5 years) model predictors should be revaluated using the process outlined in Figure 1-2. Major events, such as another drought or a severe economic recession may necessitate reexamination and/or refitting model coefficients and may cause changes in longer term expectations over the forecast period. As more data becomes available on the impacts of COVID-19 on County demographics and water use (e.g., potential shifts in CII to residential demand), reexamination of the underlying sectoral rates of water use as well as model coefficients should be conducted.

Water Supply Master Plan Project Description

Project Type	Project Name	Description
Alternative Supply	**Potable Reuse – Palo Alto**	Construction of an Advanced Water Purification Facility in Palo Alto capable of producing up to 10 MGD of purified water, for groundwater replenishment at the existing percolation ponds within the Los Gatos Recharge System Complex (LGRS). This project is included in the CIP.
	Potable Reuse – San Jose	Constructs an expanded advanced water purification facility in San Jose to increase purified water for potable reuse.
	Refinery Recycled Project	Builds a tertiary recycled water facility in Contra Costa County through a partnership with Central San. Central San would provide the recycled water produced from the facility to two oil refineries in Contra Costa County. Valley Water would then receive Contra Costa Water District's (CCWD) Central Valley Project (CVP) water currently used by the refineries. This project has an existing committee.
	Local Seawater Desalination Project	Proposes a seawater desalination project in Santa Clara County using seawater from the South San Francisco Bay to obtain a reliable local water supply. The project would provide treated water supplies directly to Valley Water's treated water system for distribution to customers but would generate brine effluent that requires management. This project is at the pre-feasibility stage
Surface Water Supply	**Delta Conveyance Project**	Modernizes the State Water Project (SWP) infrastructure by constructing alternative conveyance to divert up to 6,000 CFS from the Sacramento River north of the Delta and deliver it to SWP facilities at the southern end of the Delta. The project helps restore and protect the reliability of SWP water deliveries and, potentially, CVP water supplies south of the Delta.

	Sites Reservoir	By partnering with other agencies, builds an off-stream water supply reservoir north of the Delta to collect flood flows from the Sacramento River. This project would provide dry year yield and would be operated in coordination with the SWP and CVP, which could improve flexibility of the statewide water system.
	Stormwater - Agricultural Land Recharge (FloodMar)	Recharge stormflows on open space during the winter months. Feasibility study under way.
	Stormwater Capture	Constructs a stormwater capture and infiltration system. Site selection is still underway and will most likely require partnerships with other agencies.
Storage	**Pacheco Reservoir Expansion**	Enlarges Pacheco Reservoir from about 5,500 AF to 140,000 AF and connects the reservoir to the Pacheco Conduit. The reservoir plans to be filled with natural inflow and CVP supplies. Potential project benefits include water for downstream fisheries, emergency storage, and managing water quality impacts. This project is in the CIP.
	Los Vaqueros Expansion	Secures an agreement with CCWD and other partners to expand Los Vaqueros Reservoir by 115,000 AF, use CCWD intakes, and constructs a new pipeline (Transfer-Bethany) connecting the reservoir to the South Bay Aqueduct. This would provide storage and deliveries of delta surplus supplies. This project has a JPA.
	Groundwater Banking	Explores options for securing out-of-county storage through the development of new groundwater banks.

	B.F. Sisk Dam Raise	Increases the height of B.F. Sisk Dam and expands the capacity of San Luis Reservoir by 130,000 AF. New capacity would be shared by Reclamation and project participants and would be operationally integrated with the CVP. Benefits are expected to include dedicated storage capacity and supplemental imported water supply.
Recharge & Pipelines	**Coyote Valley Recharge Pond**	Constructs a new percolation pond(s) in Coyote Valley off-stream of Coyote Creek and near the Cross-Valley Pipeline (CVP). This project would require purchasing land and creating a new turn-out and diversion pipeline from the CVP to the pond. This project helps create operational flexibility for managed recharge operations in Coyote Valley, reducing its reliance on Coyote Creek flows and operational constraints.
	Lexington Pipeline	Constructs a pipeline between Lexington Reservoir (or Vasona Reservoir) and the raw water system to allow surface water from Lexington to be put to beneficial use elsewhere in the county. The pipeline may also convey some wet-weather flows to treatment plants or recharge facilities.
	Lexington-Montevina Water Treatment Plant Connection	Sends water from Lexington Reservoir to San Jose Water Company's (SJWC) Montevina WTP to allow for Lexington water to be used in the SJWC service area. The project would require construction of a pump station and intake pipe from Lexington to Montevina.
	Butterfield Channel Managed Aquifer Recharge	Connects Butterfield Channel to Valley Water's raw water conveyance system so imported water can be recharged along Butterfield Channel during the summer months when it is not used for stormwater conveyance.
	Madrone Channel Expansion	Expand managed aquifer recharge in Madrone Channel by adding one or two dams/ponds downstream of the existing Madrone Channel Pond #10. There's a reach approximately 4,600 feet in length between

		the dam for pond #10 and the confluence with East Little Llagas Creek, located downstream.
	San Pedro Ponds Improvement Project	Implements a project or program to enable the ponds to be operated at full capacity without interfering with existing septic systems in the vicinity.

Water Supply Master Plan 2050

Agricultural Water Advisory Committee, January 8, 2024

Long-Range Water Supply Planning

- Uncertain future
- Aging infrastructure
- Incomplete information
- Imminent decisions on generational opportunities for investment

WSMP 2050 Updates

- Goals
- Planning horizon
- Wider range of values
- Portfolio approach
- Recognition of uncertainty

Planning Goals to Achieve Level of Service

System reliability

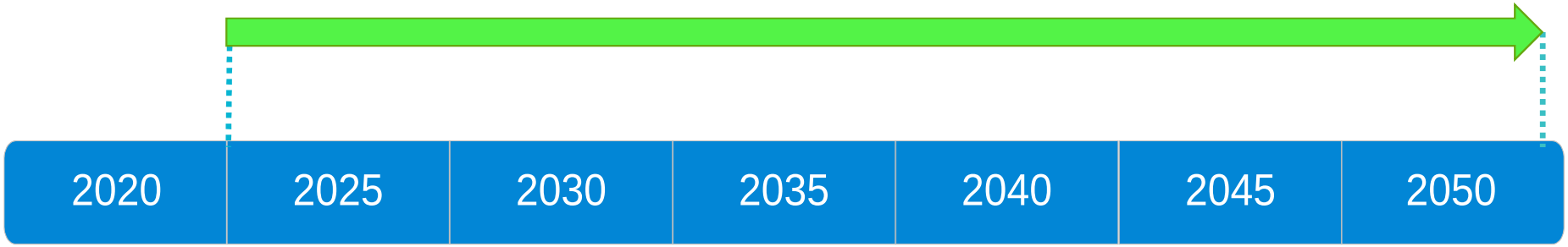
Supply diversification

Reduced shortage risk

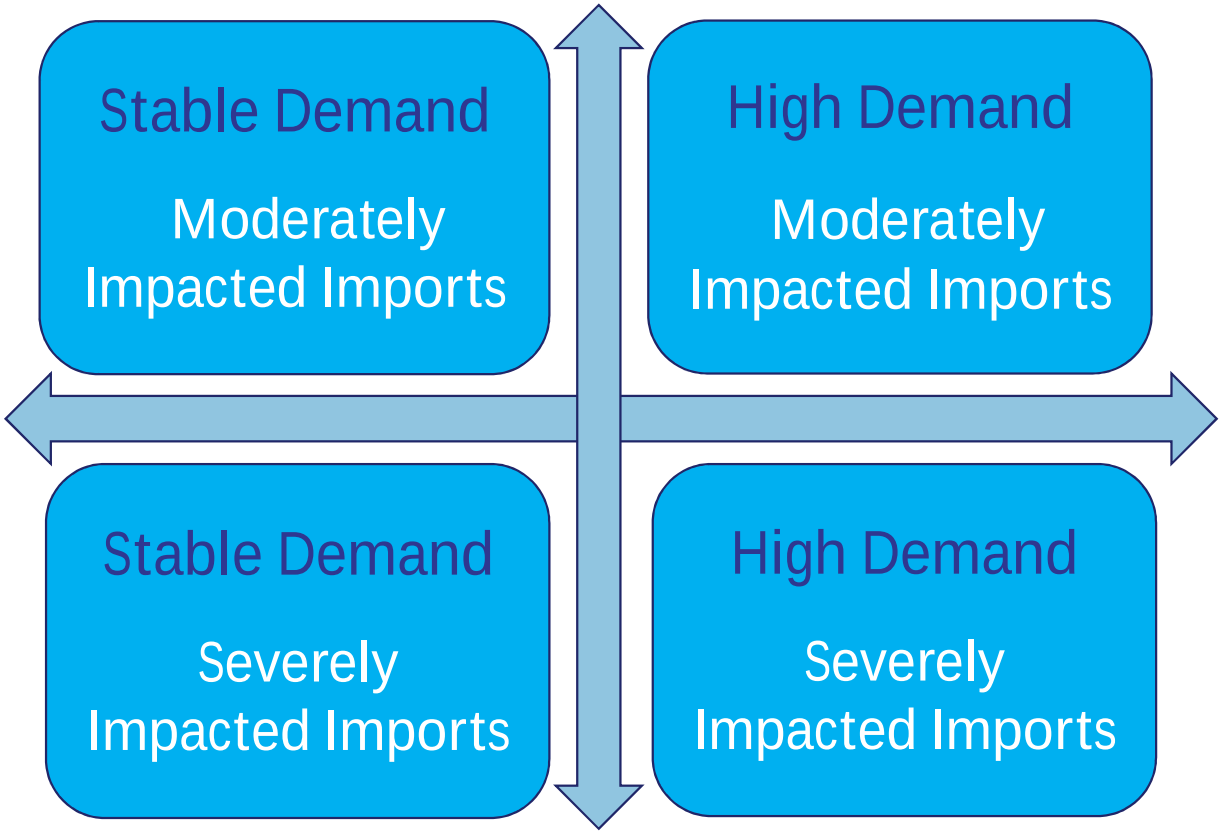
Affordable rates

Planning Horizon

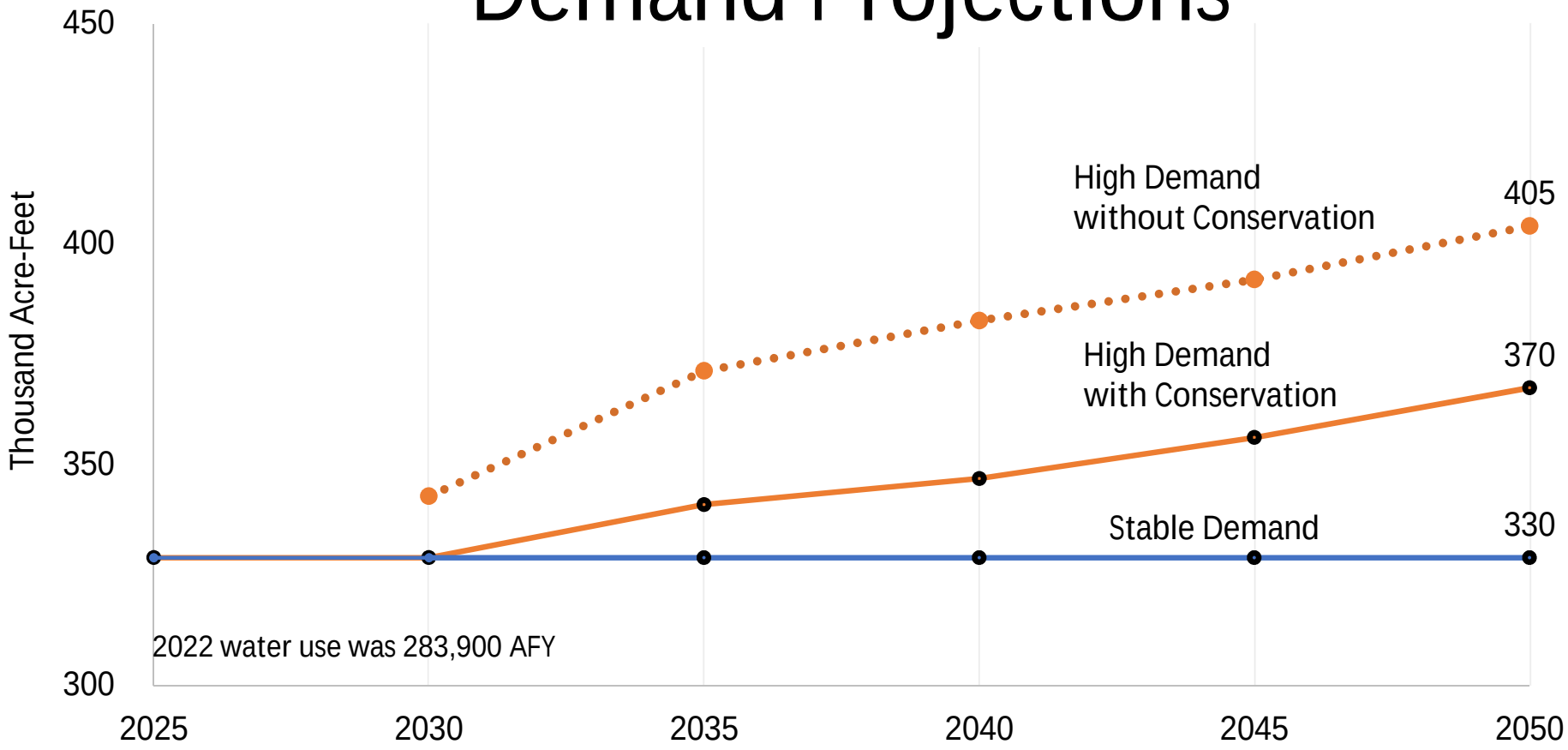
20 years → 30 years



Planning Approach – Scenario Planning



Demand Projections



Demand modeling integrates historic water use trends, housing and economic growth, climate change, and post-drought water use rebound.

Imported Water Supply

Two imported water scenarios

- Moderately impacted imports
- Severely impacted imports

Climate change considered

Baseline Assumptions

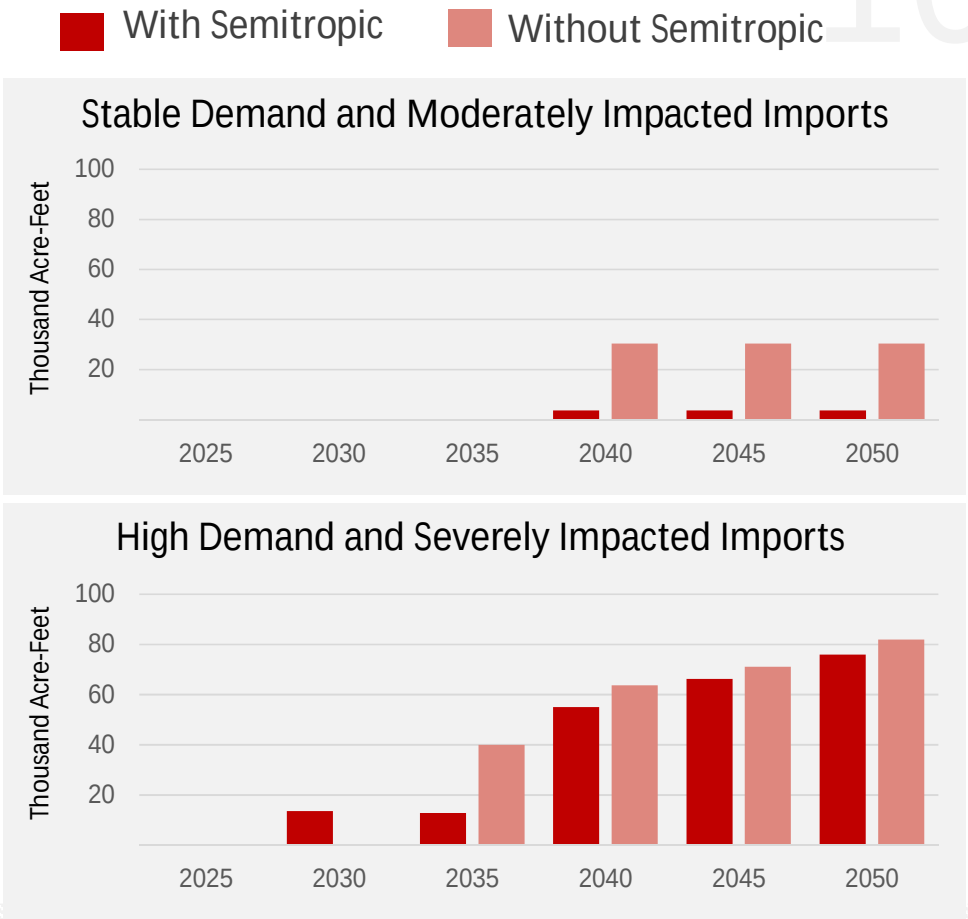
Achieve long-term conservation goals

Complete dam seismic retrofits by 2035

Maintain Valley Water assets

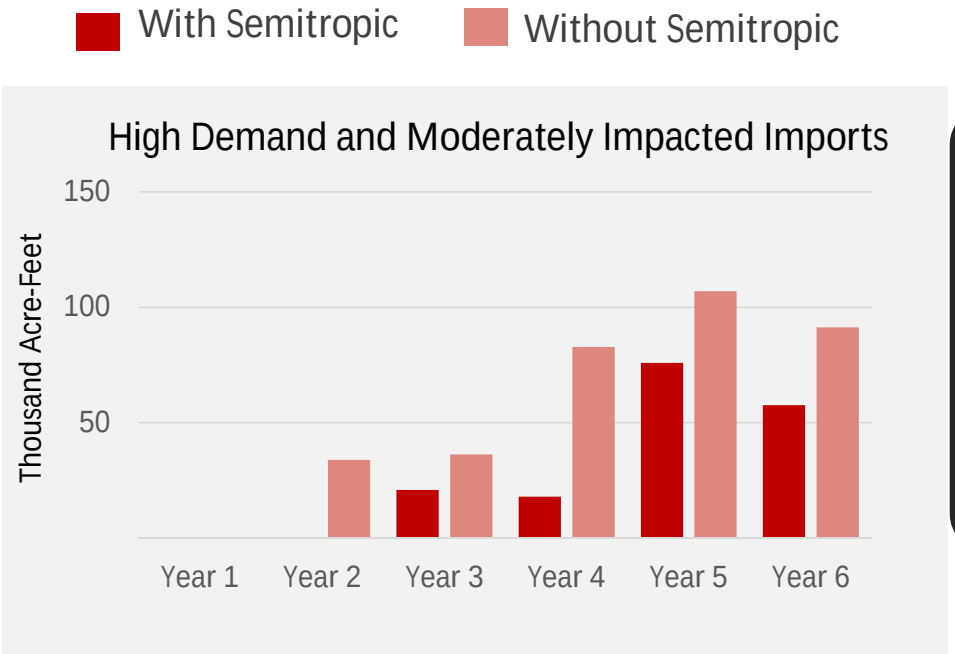
Water Supply Needs – Planning Horizon

- Shortage in all scenarios and as early as 2030
- Average annual shortages 4-76 TAF in 2050
- Out-of-County groundwater storage important



Water Supply Needs – Drought in 2050

- 2-year drought manageable
- Need for investment



Future Investment Options

- Alternative supply - dependable during drought/year round
- Surface supply - increase reliability and resilience
- Storage - capture excess water supply in wet years to be used during drought years
- Recharge ponds and pipeline – increase local supply

Projects Under Consideration

- Conservation (20+)
- Alternative Supply (4)
- Surface Supply (4)
- Storage (4)
- Recharge & Pipelines (6)

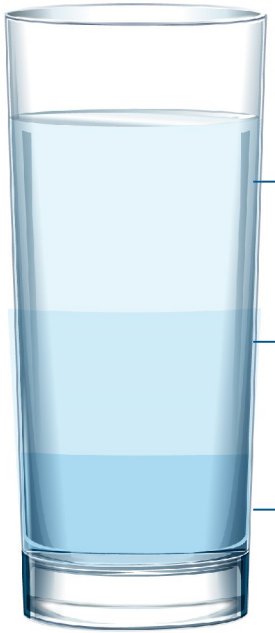
South County Water Supply and Use (2010–2019)

Groundwater

94%

WATER USE

SUPPLY



41%
Replenished from local rainfall

37%
Replenished from local reservoirs

22%
Replenished from imported water

Other local and recycled water

6%

WATER USE

SUPPLY

58%
Recycled water

42%
Local surface water

Projects In South County

- Butterfield Channel Managed Aquifer Recharge
- Coyote Valley Recharge Pond
- Madrone Channel Expansion
- San Pedro Ponds Improvement Project
- Stormwater - Agricultural Land Recharge (FloodMar)

Project Evaluation Criteria

- Water Supply Benefit
- Cost/Rate Impact
- Timing
- Technical Feasibility
- Operation
- Reliability
- Readiness/Likelihood of Success
- Flexibility
- Jurisdiction/Partnership
- Permitting/Legal issues
- Environmental Impacts/Justice
- Public Acceptance
- Inter-dependence
- Risk/Challenges

Portfolio Analysis and Evaluation

- Evaluate various portfolios to identify cost-effective solutions
- Present example portfolios at January Board meeting

WSMP Update Schedule

2023

- Establish overall framework and procedures
- Project/portfolio analysis and evaluation
- Stakeholder engagement

2024

- Portfolio analysis and recommendations
- Plan development
- Stakeholder outreach
- Plan adoption

File No.: 23-1171

Agenda Date: 1/8/2024
Item No.: 4.5.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
One Water Plan Upper Pajaro Watershed Plan Priority Actions.

RECOMMENDATION:

A. Receive information about development of the One Water Upper Pajaro Watershed Plan.
B. Review and provide input on One Water Upper Pajaro Watershed Plan Priority Actions.

SUMMARY:
One Water is a long range, integrated water resources planning initiative to direct Valley Water's future operations by identifying Priority Actions to meet Santa Clara County's most critical water resources needs over the next 30 years. Planning is based on five measurable objectives addressing water supply, water quality, flood risk, natural ecosystems, and climate change. The One Water Countywide Framework identifies metrics for each objective, and specific targets are set during development of individual watershed plans. Metrics establish baseline conditions with respect to the objectives in each watershed by providing datapoints including the number of parcels in disadvantaged communities subject to frequent flooding, chemical, biological, and physical components of water quality, acres of protected land and native land covers around streams, and numerous others.

For the water supply and climate change objectives, One Water incorporates information from the Water Supply Master Plan, Climate Change Action Plan, Asset Management Plans, and other relevant planning documents to identify Priority Actions. For water quality, flood risk, and natural ecosystems objectives, Priority Actions are identified through extensive analysis of existing watershed conditions, gap identification using metric and target data, external stakeholder outreach, and expert staff review. One Water is Valley Water's only long-range plan for flood protection and environmental stewardship.

Draft Priority Actions capable of achieving the targets set in each watershed plan are vetted through an executive steering committee and then presented to the Board Policy and Planning Committee and relevant Board Advisory Committees before being considered by the Board of Directors for adoption. With adoption, the Board confirms the identified Priority Actions for potential incorporation into Valley Water operations and the Capital Improvement Program (CIP). In March 2022, the Board of Directors adopted the One Water Countywide Framework and Coyote Watershed Plan. Staff will provide an overview of the One Water planning process and draft Priority Actions for the Upper Pajaro Watershed for Committee review.

Flood Vulnerability Assessment

Historically, Valley Water designed flood protection projects to remove parcels from FEMA's flood insurance maps, which are based on the extent of flooding from a 1% (100-year) flood event. Recognizing that large infrastructure projects designed to protect against a 100-year flood were becoming cost prohibitive and/or undesirable to the community, the Board of Directors approved a revision to Board Governance Ends Policy E-3.3 in 2021. The revised policy directs Valley Water to increase the health and safety of residents countywide by reducing community flood risk.

As part of the analysis performed for the Upper Pajaro Watershed Plan, staff developed a new procedure to implement the revised Ends Policy. The procedure utilizes a variety of modelling and spatial data representing physical hazards, statistical hazards, and social vulnerabilities to assess flood vulnerability in the watershed. Physical hazards, including deep or fast-moving flood waters in addition to flood extent, are identified for the 25-year (4%) return interval storm. Statistical hazards, including locations of frequently recurring floods identified by the Flood Information Team (FIT) program, are also incorporated. Finally, social vulnerability to flooding measured by the location of underserved communities and critical facilities is added to physical and statistical hazard data. A spatial overlay of these data creates a map that identifies the extent and severity of vulnerability to flooding. The maps produced by this analysis become a planning tool for staff to identify potential projects to address flood vulnerability, which are included as Priority Actions for the watershed. Staff implemented the new planning procedure to assess flooding induced by Uvas and Llagas Creeks as of December 2023 and will implement the updated flood vulnerability assessment methodology for other creeks in urbanized areas of the watershed moving forward.

Flood Risk Reduction Priority Actions

Results of the flood vulnerability assessment identified the following areas in the Upper Pajaro Watershed as vulnerable to a 25-year flood event: portions of urban areas in Morgan Hill and San Martin, agricultural areas east of Gilroy and Highway 101, Highway 101 north of the State Route 25 interchange, and portions of southern Gilroy and the Uvas Creek-Pajaro River confluence. These flood vulnerabilities will be addressed by future flood protection projects and planning studies included in the Priority Actions. The Upper Llagas Creek Flood Protection Project, which is currently under construction, will provide 100-year flood protection within downtown Morgan Hill, protecting approximately 1,100 homes and 500 businesses, and 10-year flood protection for approximately 1,300 agricultural acres in Morgan Hill, Gilroy, and San Martin. Valley Water is supporting the implementation of the Highway 101/State Route 25 Interchange Project, led by Valley Transportation Authority (VTA) and Caltrans, which includes construction of culverts and detention basis to alleviate recurrent flooding of Highway 101 in the vicinity. Finally, a future planning study included in the

Priority Actions will assess flooding from Uvas Creek downstream of Santa Teresa Boulevard in Gilroy and propose flood risk reduction measures to alleviate flooding of urbanized areas and the portion of Highway 101 adjacent to Uvas Creek. There are approximately 400 acres and 5,466 parcels adjacent to Uvas Creek at risk of flooding from a 25-year flood event. Additional Priority Actions were identified to maintain flood protection assets and restore capacity to existing creek channels.

Ecological Resources and Water Quality Priority Actions

Ecological Resources and Water Quality Priority Actions reflect an intensive stakeholder engagement process involving staff and participation from numerous external agencies, organizations, partners, and community groups. Ecological Resource actions reflect the Upper Pajaro Watershed's diverse natural resources and seek to conserve sensitive natural communities, improve habitat connectivity, expand riparian corridors, enhance fish passage, and work with partners to enhance ecological assets, such as San Felipe Lake. Water quality actions recognize the importance of expanding data collection efforts to improve understanding of existing conditions, reducing the impact of agriculture on water quality, and partnering with cities to address urban runoff issues.

To guide and track implementation of ecological resources and water quality Priority Actions, staff will develop the Upper Pajaro Native Ecosystem Enhancement Tool. Mirroring a similar resource created for a portion of the Coyote Watershed, the tool will provide specific guidance on where different ecological enhancement actions are most physically and ecologically appropriate. The GIS-based tool will assess land ownership and land use, reflect the value of agricultural land uses in the watershed, and show the distribution of sensitive natural resources, along with numerous other factors, to coordinate, plan, and support implementation of many projects called for in the ecological resources and water quality Priority Actions.

Water Supply Priority Actions

Water Supply Priority Actions have been developed based on the Water Supply Master Plan and additional input from subject matter experts provided during Watershed Plan development. Short-term actions reflect the watershed's potential for enhanced groundwater recharge, which include evaluating the feasibility and benefits of different recharge facilities and programs to determine the most effective approach to maintaining Llagas Subbasin groundwater reliability and quality. Examples include evaluating approaches for improving recharge operations at San Pedro Ponds, expanding existing recharge facilities, and evaluating the feasibility of Flood-Managed Aquifer Recharge (FloodMAR) in Santa Clara County.

ENVIRONMENTAL JUSTICE IMPACT:

The Upper Pajaro Watershed Plan has included an extensive stakeholder engagement process, a transparent process for identifying priority actions, and a new way to conduct flood risk reduction assessments, with a focus on health and safety and equitable flood protection.

ATTACHMENTS:

Attachment 1: Upper Pajaro Watershed Priority Actions List
Attachment 2: PowerPoint Presentation

UNCLASSIFIED MANAGER:
Lisa Bankosh, 408-630-2618

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
Flood Risk Reduction (FRR) - Short Term Actions							
FRR-01	Identify and assess open space areas adjacent to creeks compatible with flood detention and environmental protection for incorporation into future flood protection projects.	The Pajaro watershed has a lot of open land and there is potential for flood detention, environmental restoration/enhancement, and FloodMAR: Flood-Managed Aquifer Recharge. This involves using open space to collect and detain flood waters and allowing it to recharge the groundwater aquifers while also reducing flood risk. The Pajaro Watershed does not drain into the S.F Bay as the other main watersheds in Santa Clara County, but instead drains southwest to Santa Cruz and Watsonville where Pajaro River ultimately enters the Pacific Ocean. There is concern for potential induced flooding in those downstream areas with any flood protection measures in the Pajaro Watershed that increase the flows downstream. Flood detention measures reduce flows downstream and could provide flood risk reduction benefits for not only Santa Clara County but San Benito and Santa Cruz counties as well. Instead of raising floodwalls and/or levees, identifying and utilizing recreational areas for potential flood risk reduction projects (i.e. McKelvey Park Baseball field & detention basin), will resolve various issues such as higher construction and o&m costs and reducing significant environmental impacts and mitigation costs. Feasibility and planning studies will need to be developed as well as coordinating support from city/county entities that may share right-of-way/land rights to determine appropriate maintenance operations post design and construction. Valley Water has began coordinating with the Santa Clara Valley Open Space Authority to pursue this concept at the Pajaro River Agricultural Preserve (see ECO-1).	Assessment/Study	Santa Clara County Parks and Recreation Department, City of Morgan Hill, City of Gilroy, OSA, PRWFPA	Watersheds Stewardship and Planning Division, Hydrology, Hydraulics, and Geomorphology Unit	0-10	$$
FRR-02	Complete planning and design and implement Lower Llagas Creek Capacity Restoration Project	This project plans, designs, and constructs improvements on 7.15 miles of Lower Llagas Creek, from Buena Vista Avenue to Pajaro River, to accomplish the following objectives: 1. Evaluate the current flood risk in the area surrounding the project versus the design level flood risk 2. Develop options to provide flood protection for Lower Llagas Creek Reaches 2 and 3 in accordance with Federal Emergency Management Agency criteria where applicable 3. Identify feasible opportunities for environmental restoration and corridor preservation 4. Coordinate planning, design, and construction efforts with the South County Regional Wastewater Authority	Project	City of Gilroy	Business Planning and Analysis, Watersheds Design and Construction, Unit 6	0-10	$$$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
FRR-03	Support Valley Transportation Authority's implementation of US 101/SR 25 Interchange Project - Phase 1	Valley Transportation Authority and Caltrans are working to resolve the traffic congestion issues at the intersection of Highway 101 and State Route 25. Phase 1 of the project will reconstruct the US 101/SR 25 interchange slightly north of the current interchange. Construction of culverts and detention basins are included in the project, which would alleviate recurrent flooding of Highway 101 in the vicinity. There is risk of flooding in this area from Gavilan Creek which crosses under Highway 101 near the intersection as well as from Uvas Creek further north. This project would reduce the flood risk coming from Gavilan Creek. Valley Water coordinated with Valley Transportation Authority during project planning and design. Project also includes wildlife passage improvements including fencing, jump-outs, median retrofits, and a new undercrossing to reduce roadkill. Construction is expected to begin in 2024 and finish in 2027.	Project; Partnership	VTA, CalTrans	Community Projects Review Unit	0-10	$
FRR-04	Analyze flood risk by completing hydraulic modeling for the Upper Pajaro Watershed.	The Pajaro watershed is the most outdated of the major watersheds when it comes to hydraulic modeling and determining the existing flood risk. There are many channels that have not been modeled and others with outdated flood risk data. Although much of the watershed is rural and agricultural, it is still necessary to have an understanding of the true flood risk. As well as structures, it is vital to protect our roadways (Highway 101 has flooding issues), critical facilities (there is a wastewater treatment plant within the Uvas Creek floodplain), and farmland from flood waters. Channels with outdated, minimal or no flood risk analysis include: the Soap Lake region with Pajaro River, Miller's Canal, some agricultural canals, and portions of Uvas Creek, Pacheco Creek, Tesquisquita Slough, and Ortega Creek; Pacheco Creek; Tesquisquita Slough; Jones Creek and its tributaries; Uvas Creek upstream of Santa Teresa Blvd.; Lower Miller Slough; Princevalle drain; and several Upper Llagas Creek tributaries in the eastern portion of the watershed. Once the flood risk has been analyzed and updated, the next step can be to remap the FEMA flood maps and update the flood zone designations where necessary. This work can be done by Valley Water under Safe, Clean Water Program Priority F3 and submitted to FEMA for potential updates to their flood mapping and Flood Insurance Studies (FIS).	Assessment/Study	San Benito County, Pajaro River Watershed Flood Prevention Authority	Watersheds Stewardship and Planning Division, Hydrology, Hydraulics, and Geomorphology Unit	0-10	$$
FRR-05	Request updates to FEMA flood maps and flood zone designations upon completion of hydraulic modeling.	Once the flood risk has been analyzed and updated, the next step is to partner with cities and FEMA to update the flood zone designations as appropriate. Any official updates to the flood mapping and flood zone designations will be done by FEMA and can affect the flood insurance paid by the property owners. Much of the watershed is designated as Zone D in the FEMA flood maps, which is used to designate areas with possible but undetermined flood hazards. By updating the hydraulic analysis in the watershed, Valley Water can provide a more accurate picture of what the existing flood risk is in the watershed, better prepare and inform the public of this flood risk and update the FEMA Flood zones so that the flood insurance property owners are paying correctly aligns with the flood risk. This action can occur as progress is made on flood modeling called for in FRR-4.	Partnership	FEMA, Cities of Morgan Hill and Gilroy	Watersheds Stewardship and Planning Division, Hydrology, Hydraulics, and Geomorphology Unit	0-10	$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
FRR-06	Complete Upper Llagas Creek Flood Protection Project	In April 2022, Valley Water completed Phase 1 construction. It included channel excavation, construction of the on-site compensatory mitigation, Lake Silveira wetlands, Masten Avenue Bridge concrete underpinning, Monterey Road Bridge concrete lining, installation of rock slope protection, storm drain outfall modifications, removal of concrete rubble, debris and legacy trash, and destruction of monitoring wells. It also included the installation of bat boxes, as well as removal of 12.5 acres of invasive blackberry at Lake Silveira and excavation to restore 2,000 linear feet of Llagas Creek from Lake Silveira towards Monterey Highway. Phase 2A construction began in June 2021 within a portion of Reach 8 in downtown City of Morgan Hill. Phase 2A includes approximately 2,300 linear feet of a horseshoe-shaped underground tunnel 14-ft x 12 ft and approximately 1,600 linear feet of 10 ft x 9 ft twin Reinforced Concrete Box Culverts (RCBs) upstream and downstream of the proposed tunnel to carry high water flows. Construction is expected to be completed in FY24. Phase 2B construction consists of approximately 1,900 linear feet of twin reinforced concrete box culverts (10 ft x 9 ft), creek modifications and excavation by widening and deepening, installation of culverts at various street crossings, construction of an inlet basin weir split-flow structure and bridge underpinning work. Upon completion of Phases 1, 2A and Phase 2B, the project will provide flood protection to 1,100 homes, 500 businesses and 1,300 agricultural acres while improving stream habitat.	Project	USACE, City of Morgan Hill	Business Planning and Analysis, Watersheds Design and Construction Unit 3	0-10	$$$$$
FRR-10	Improve coordination for intercounty flood protection and by maintaining communication and information sharing with partner agencies.	The Pajaro Watershed is managed for many purposes at many scales by numerous agencies. Additional assessment of flood vulnerabilities and dynamics are required to comprehensively understand flood risks throughout the Pajaro Watershed and the downstream impacts of upstream actions. In addition to Valley Water, San Benito, Monterey and Santa Cruz counties are considering flood control actions along the Pajaro River and Pacheco Creek. Valley Water can improve coordination and ensure its projects are compatible by sharing information about its flood vulnerability analyses, communicating about its management of flood risk, and participating in Pajaro River Watershed Flood Prevention Authority meetings.	Partnership	Pajaro River Watershed Flood Prevention Authority,San Benito County, Santa Cruz County, Monterey County, Central Coast Regional Water Quality Control Board, Pajaro River Watershed Flood Prevention Authority	Watersheds Stewardship and Planning Division, Hydrology, Hydraulics, and Geomorphology Unit	0-10	$
FRR-11	Complete Planning Study for Uvas-Carnadero Creek Flood Protection Project	This planning study would assess opportunities to construct flood risk reduction measures along approximately 4.5 miles of Uvas Creek from SR 25 up to Luchessa Ave. Portions of this reach has less than 10-year capacity and have frequently flooded Highway 101 just north of where Uvas Creek crosses under the highway. Highway 101 is the major throughway in this area and it flooding is a major concern. There is approximately 400 acres and 5,466 parcels at risk of flooding from a 25-year flood event. The creek upstream of this reach has 100-year protection with levees up to Santa Teresa Blvd. The creek downstream of this reach floods but is actually a part of the Soap Lake flooding issues and should be considered as part of the Soap Lake action item. The cost estimate provided includes the entirety of the project through construction.	Project	USACE	Hydrology, Hydraulics, and Geomorphology Unit; Design and Construction, Unit 6	0-10	$$$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
Ecological Resource Actions (ECO) - Short Term							
ECO-01	Partner with Santa Clara Valley Open Space Authority and other organizations to expand and enhance floodplain at Pajaro River Agricultural Preserve.	The VHA and OSA are planning ecosystem enhancements in collaboration with The Nature Conservancy at OSA's Pajaro River Agricultural Preserve that could increase jurisdictional water acres and contribute to multiple One Water metrics. Part of the planning area is on and adjacent to Valley Water property. Valley Water's Carnadero Preserve and Pajaro Freshwater Wetland are award-winning examples of habitat creation, enhancement, and farmland conservation that could serve to inform efforts on the Pajaro River Agricultural Preserve. This action is to support the planning, design, and implementation of this project through technical assistance and streamlined encroachment permitting for access to Valley Water property.	Project; Partnership	Pajaro River Watershed Flood Prevention Authority, VHA, OSA, RCDs, non-profit organizations, native tribes, San Benito County	Environmental Mitigation and Monitoring Unit, Community Project Review Unit	0-10	$$
ECO-02	Partner with organizations in San Benito County to conserve and enhance San Felipe Lake.	San Felipe Lake is a critical wetland, rare plant, and wildlife resource that needs additional conservation and enhancement. Although it is in San Benito County, it receives water from and discharges into Santa Clara County via Pacheco Creek and Pajaro River, respectively. There is significant potential to allow to channels meander more, while restoring ecological function and increasing their capacity to slow, spread, and sink. Only parts of the lake are under conservation easement, and this easement may be restricted to an agricultural easement, but a land management conservation easement is important for maximizing habitat for rare species. The current management of natural areas surrounding San Felipe Lake is geared towards ranching and agriculture, and unnaturally-timed summer water releases, along with discing (for agriculture) and cattle trampling and compaction, negatively impact the fragile wetlands and adjacent alkaline grassland that fringe San Felipe Lake and its flood plain. This action includes planning, design and implementation.	Assessment/Study; Project; Partnership	San Benito County, RCDs, native tribes, land trusts, other non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$$
ECO-03	Develop a program and best management practices to incorporate tribal involvement, traditional ecological knowledge, and cultural resource protection into watershed actions.	Open space preservation and ecological enhancement actions provide opportunities to preserve and enhance tribal cultural resources. These opportunities can be most fully realized when tribes are engaged members of planning, implementing, and using such actions. Tribes can benefit from the reconnection with their ancestral homeland, and the land can benefit from their traditional management practices. This action includes planning and program development, led by Valley Water's Office of Racial Equity, Diversity, and Inclusion.	Partnership; Policy	Native tribes (Amah Mutsan, Tamien Nation)	Office of Racial Equity, Diversity, and Inclusion	0-10	$
ECO-04	Expand and enhance riparian and wetland habitat at the Carnadero Preserve	Valley Water's 170-acre Carnadero Preserve is for habitat enhancement and compatible farming. Some riparian and wetland habitats have been successfully restored and created at the Preserve already. Farming is a desired land use for the Preserve, but there are approximately 60 acres of farmland that do not have a water supply or that frequently flood for prolonged periods in the winter. These areas are suitable for the creation and expansion of riparian and perennial and seasonal wetland habitat that can contribute to wildlife habitat and connectivity, help store high flows and reduce downstream flow magnitude, and buffer creeks from runoff and associated water quality impairment.	Project	VHA, Regional Board, USFWS, CDFW, native tribes	Environmental Mitigation and Monitoring Unit	0-10	$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
ECO-05	Continue and expand the temperature monitoring program on Llagas, Uvas, and Pacheco Creeks and use results to inform future habitat enhancement actions.	Temperature monitoring is critical to understanding the steelhead life history stage(s) that creeks can support and making informed aquatic habitat enhancement decisions. Monitoring by Valley Water is ongoing along these creeks but will need to be continued, expanded, and analyzed to select appropriate enhancement actions and areas. Partners could play an important role in expanding the monitoring program, and applying the results to aquatic habitat enhancement plans. This action is a study and program.	Program; Partnership	NMFS, CDFW, non-profit organizations	Environmental Mitigation and Monitoring Unit, Environmental Planning Unit	0-10	$
ECO-06	Assess modified channels to identify strategies and priorities to enhance ecological conditions.	Straightened, trapezoidal channels, many of which are owned and/or maintained by Valley Water, reduce the ecological condition of riverine habitat in the watershed. The form and function of modified channels and other low scoring riverine/riparian reaches (based on CRAM scores) can be improved by expanding floodplains, adding aquatic habitat complexity, allowing for or planting more native vegetation, reducing the amount of invasive plants, and expanding and improving buffers around creeks. Valley Water can prioritize this work where it would also provide community benefits, such as trails, shade, and views of nature, and/or where channels or adjacent access roads are failing or at risk of doing so. This action includes planning and design.	Assessment	USACE, non-profit organizations, municipalities, native tribes	Environmental Mitigation and Monitoring Unit, Watershed Field Operations Unit	0-10	$
ECO-07	Identify locations and strategies to remove non-native vegetation that has encroached upon and is stabilizing gravel bars.	Gravel bars are important features of suitable habitat for steelhead, but must be able to mobilize periodically to be usable and beneficial. Drought and other environmental conditions can contribute to the expansion of non-native riparian vegetation and the armoring of historically mobile stream features. Removal of such vegetation is a relatively low-effort way of enhancing aquatic habitat, and should be prioritized on gravel bars that are in accessible reaches and otherwise highly suitable habitat for various salmonid life-stages and where the encroaching vegetation is a non-native invasive species. This action is a study to identify these locations and plan for doing the work.	Assessment; Partnership	CDFW, NMFS, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-08	Protect and Restore natural hydrologic and ecological processes for the recruitment, establishment, and management of Sycamore Alluvial Woodland on Pacheco Creek.	Pacheco Creek has one of the largest remaining and highest quality stands of SAW in California, which depend on periodic and episodic high pulse flow events (estimated to be a 10 to 20 year flood event at 9,000-12,000 cfs) to maximize sediment redistribution and scour, form coarse sediment bars and braided and cobbled-bedded channels, and to remove other woody vegetation that competes with sycamores. These conditions, coupled with natural summer dry backs, are necessary to create the substrate conditions and water availability for sycamore recruitment and establishment. Providing a natural hydroperiod for sycamore recruitment and maintenance of existing SAW stands, and the infrastructure necessary to manage both pulse flows and dry backs at the appropriate times, should be a critical part of Pacheco Creek flow management decisions, given the statewide importance of this occurrence. While other stands of SAW occur in Santa Clara County, the Pacheco Creek SAW occurrence is by far the most critical for conservation.	Assessment/Study, Project, Program, Partnership	Santa Clara Valley Habitat Agency, The Nature Conservancy	Environmental Mitigation and Monitoring Unit, Watershed Field Operations Unit	0-10	$$$$
ECO-09	Participate in development of the Pacheco Pass Wildlife Overpass Planning Project by providing technical support to Santa Clara Valley Habitat Agency and other project partners.	The Santa Clara Valley Habitat Agency and partners including Valley Water are working to install a wildlife overpass of Hwy 152 at Pacheco Pass. This project will use past and future scientific studies, including roadkill monitoring and tracking of collared mountain lion and tule elk, to identify suitable locations for a wildlife overpass. Valley Water can support this effort through information sharing and technical support. VW staff are participating in the Pacheco Pass working group.	Partnership; Project	VHA, Caltrans, Valley Transportation Authority, CDFW, USFWS	Environmental Mitigation and Monitoring Unit	0-10	$$$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
ECO-10	Assess fish passage barriers and impediments throughout watershed and prioritize their remediation.	Physical fish passage barriers have been inventoried and should be removed or remediated, generally from downstream to upstream. Passage impediments from water extraction should also be addressed, potentially through landowner education and technical support. Llagas Creek subwatershed has the most passage impediments; Uvas Creek subwatershed has the most valuable habitat for steelhead. Prioritization depends on landowner permission and funding availability. Valley Water should remediate those that they own and in partnership with public landowners, but should also support the efforts of partners to remediate those on private property. This action includes improvements to existing wet crossings on Uvas-Carnadero Creek, some of which Trout Unlimited has already developed plans for. Wet crossing improvements also have the potential to address sediment and water quality issues.	Assessment	NMFS, CDFW, VHA, County Parks, RCDs, native tribes, Trout Unlimited	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-11	Assess and prioritize opportunities to expand and connect riparian corridors around channels, particularly where they are missing or only very narrow.	Vegetated buffers around channels, typically referred to as riparian corridors, provide myriad ecosystem services, but have been removed or are only very narrow along many miles of channel. Forest, shrubland, grassland, and wetland communities can all be appropriate to establish, depending upon physical, groundwater, and land use conditions, and could be incorporated into multiple-benefit efforts for wildlife connectivity, groundwater recharge, and/or flood risk reduction. Such efforts would need to be balanced with agricultural land uses and landowner needs, and farmland that floods frequently could be used to focus landowner outreach efforts. Valley Water should implement this action on its land and in association with other projects, but can also support the efforts of partners to implement this action on private property. This action includes planning, design, and implementation.	Assessment	VHA, OSA, RCDs, native tribes, POST, Point Blue, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-13	Partner to protect and conserve sensitive natural communities	The Upper Pajaro River Watershed still supports relics of once expansive alkali meadows, seasonal wetlands, alkaline wetlands, SAW and other sensitive natural communities. They provide critical habitat for a variety of protected plant and animal species, wildlife connectivity, and other ecosystem services. These areas should be priorities for preservation, as well as protective buffers around them. Currently very few to none of these sensitive communities are protected and many are threatened by altered hydrology, ranching and farming. By identifying conservation partners and providing funding for conservation easements, land acquisition, or other measures, Valley Water can maintain and restore these fragile areas and their ecological relationships. Examples of conservation strategies include maintaining the natural hydrology and not diverting water for agricultural or other land use in the vicinity of fragile alkaline wetlands; timing of cattle grazing/ranching activities to avoid compaction, trampling or overgrazing of wetland and adjacent upland areas; and avoiding alkali meadows during agriculture and discing activities.	Partnership	VHA, County Parks, OSA, San Benito County, land trusts, native tribes, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
ECO-14	Improve suitable spawning and rearing habitat for steelhead trout and salmon by adding coarse sediment and large wood to creeks where physically appropriate and most ecologically valuable in the Uvas Creek sub-watershed.	The addition of gravel, other coarse sediment, large wood, pools >1.5 ft deep, and restoration of pool-riffle morphology would improve habitat conditions in this very important salmonid sub-watershed and mitigate the effects of Uvas Dam on sediment supply. The Study of Santa Clara County Steelhead Streams to Identify Priority Locations for Gravel Augmentation and Large Woody Debris Placement Santa Clara County, California (Balance Hydrologics, 2018) projects #UC1-1, UC4-3, and UC4-5 have already been identified as feasible and appropriate, but still require design and construction. Additional locations (such as UC4-1) will require planning, design, and construction.	Assessment/Study; Partnership	NMFS, CDFW, Water Board, RCDs, native tribes, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-14.1	Design and construct Uvas Creek project UC1-1 from the Study of Santa Clara County Steelhead Streams to Identify Priority Locations for Gravel Augmentation and Large Woody Debris Placement	The Study of Santa Clara County Steelhead Streams to Identify Locations for Gravel Augmentation and Large Woody Debris Placement (Balance Hydrologics, 2018) identified Uvas Creek project UC1-1 as feasible and appropriate to add both gravel and large woody debris to increase spawning habitat, sediment mobility, and channel complexity. A gravel injection project at this location still requires design and construction.	Project	NMFS, CDFW, Water Board, RCDs, native tribes, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-14.2	Design and construct Uvas Creek project UC4-3 from the Study of Santa Clara County Steelhead Streams to Identify Priority Locations for Gravel Augmentation and Large Woody Debris Placement	The Study of Santa Clara County Steelhead Streams to Identify Locations for Gravel Augmentation and Large Woody Debris Placement (Balance Hydrologics, 2018) identified Uvas Creek project UC4-3 as a feasible and appropriate location to add both gravel and large woody debris to increase spawning habitat, sediment mobility, and channel complexity. Valley Water's Stream Maintenance Program completed Project #2 at UC4-3 (installation of large woody debris) in 2021 to increase channel cover and complexity. Downstream reaches may also benefit from gravel placement as gravel is transported. A gravel injection project at this location still requires design and construction.	Project	NMFS, CDFW, Water Board, RCDs, native tribes, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-14.3	Design and construct Uvas Creek project UC4-5 from the Study of Santa Clara County Steelhead Streams to Identify Priority Locations for Gravel Augmentation and Large Woody Debris Placement	The Study of Santa Clara County Steelhead Streams to Identify Locations for Gravel Augmentation and Large Woody Debris Placement (Balance Hydrologics, 2018) identified Uvas Creek project UC4-5 as a feasible and appropriate location to add gravel and large woody debris to increase spawning habitat, sediment mobility, and channel complexity. Valley Water's Stream Maintenance Program completed Project #2 and Project #3 at UC4-5 (installation of large woody debris) in 2021 to increase channel cover and complexity. A gravel injection and/or gravel bar construction project at this location still requires design and construction.	Project	NMFS, CDFW, Water Board, RCDs, native tribes, non-profit organizations	Environmental Mitigation and Monitoring Unit	0-10	$$
ECO-15	Develop Upper Pajaro Native Ecosystem Enhancement Tool to coordinate and inform long term habitat conservation planning.	There are many opportunities for conservation and ecological enhancement that can safeguard against incompatible development, reduce flood risk, improve water quality and wildlife connectivity, among other benefits and that could be undertaken by a variety of organizations. A watershed-scale tool that provides more specific guidance on where different enhancement actions should be physically and ecologically appropriate, given land ownership and the value of agricultural land uses in the watershed, will be instrumental to coordinating, prioritizing, planning, and eventually implementing such actions. The Pajaro Compass is an important step in this direction, and the Coyote Creek Native Ecosystem Enhancement Tool is an example of such a resource that is publicly available, updated, and maintained. This action includes study and planning.	Assessment/Study; Partnership	VHA, RCDs, CDFW, Water Board, NMFS, USFWS, non-profit organizations, County Parks, OSA, land trusts, native tribes	Environmental Mitigation and Monitoring Unit, Stream Maintenace Program	0-10	$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
ECO-16	Incorporate restoration of areas impacted by unhoused encampments into Stream Maintenance Program.	Existing creekside encampment locations are tracked and mapped by Valley Water staff. After working with partners to reduce the prevalence of encampments within waterways and provide new housing for unsheltered individuals, impacted areas must be remediated and restored by removing trash and pollutants and replanting disturbed vegetation. A program to restore impacted areas can be integrated into the Stream Maintenance Program. Restoration of areas impacted by encampments can be utilized as mitigation credit for other Valley Water activities.	Program	VW, municipalities, Santa Clara County, non-profit organizations	Unhoused Task Force	0-10	$
ECO-17	Develop and incorporate vegetation cover guidelines for use when developing project mitigation to decrease wildfire risk to native habitats.	Complying with permit requirements for vegetation cover can result in plant and canopy densities that exacerbate the risk and severity of wildlife in riparian habitats, which are typically more resistant to wildfire, and nearby residential and commercial areas. Technical information should be evaluated to identify vegetation cover goals that result in environmental benefits without significantly increasing wildfire risks. Permitting agencies should be involved in this evaluation so that there is trust when the guidance is used in mitigation and revegetation plans. This action is a study and plan/program.	Policy	N/A	Environmental Mitigation and Monitoring Unit, Vegetation Field Operations Unit	0-10	$

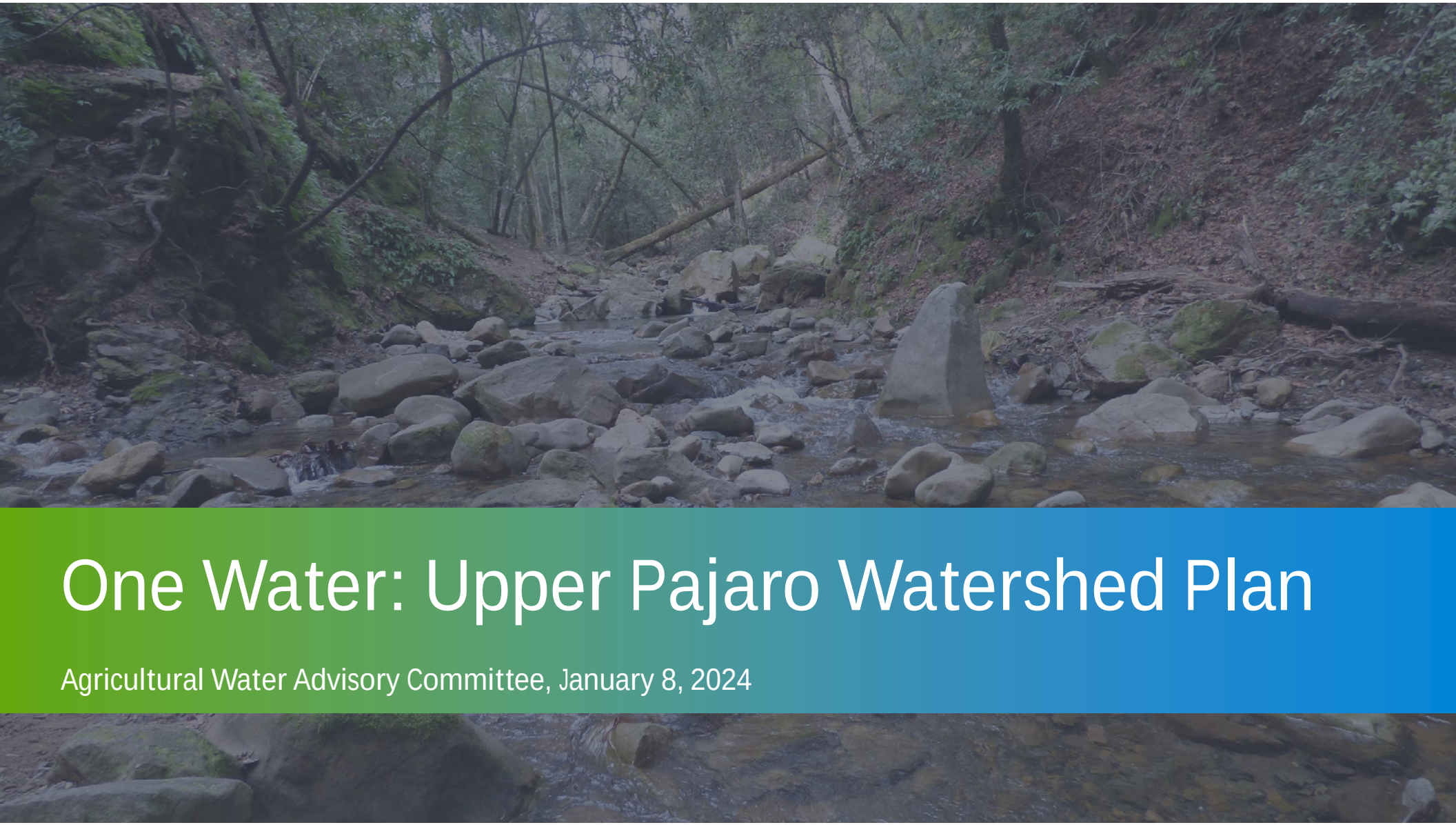
Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
Water Quality Actions (WQ) - Short Term							
WQ-01	Support efforts led by Resource Conservation Districts, Natural Resource Conservation Service, and Santa Clara County Division of Agriculture to educate and assist farmers and landowners in implementing land management practices to improve water quality and enhance natural resources.	Outreach and incentive programs (funding and technical assistance) can help private landowners and farmers manage their lands and incorporate practices that can benefit them and the environment. The focus of such efforts should include pesticide and nutrient management and mitigation; agricultural runoff and fine sediment control, such as furrow alignment and vegetated buffers; water conservation; vegetation management for habitat and wildlife movement; and rodenticide reduction. Valley Water can explore ways in which it can provide funding and technical assistance in partnership with RCDs, NRCS and the Santa Clara County Division of Agriculture to promote the adoption of practices such as those listed above.	Partnership	RCDs, NRCS, Farm Bureaus, Water Board, non-profit organizations, municipalities	Environmental Planning Unit	0-10	$
WQ-02	Partner with Santa Clara County, cities, and other organizations to reach a functional zero number of unsheltered people residing on Valley Water lands along waterways.	Encampments within and adjacent to waterways and Valley Water facilities pose numerous human health, safety, operational, and environmental challenges. Valley Water can play an important role in assisting unsheltered individuals residing on its land and addressing the associated impacts to water quality, ecological resources, recreational facilities, and others. Staff are developing a framework to address these challenges, which may include enhancing services to remove trash and pollutants generated by encampments, participation in countywide collaboration to address the lack of housing and creekside encampments, utilizing Valley Water-owned property for housing development, and other efforts. This action will be implemented in a manner consistent with Board Ends Policy E-6 once it is approved.	Partnership	RCDs, Farm Bureaus, Water Board, non-profit organizations, municipalities	Watersheds Operations and Maintenance Unit	0-10	$$
WQ-03	Expand water quality monitoring program to close critical data gaps.	Valley Water, the Santa Clara Valley Urban Runoff Pollution Prevention Program, and other partners conduct regular monitoring of water quality throughout the County. This action seeks to address existing gaps in water quality data identified by staff. In the Upper Pajaro River Watershed, including Chesbro and Uvas Reservoirs. Monitoring activities may include quarterly surface and depth profiles for general water quality, seasonal sampling for algal toxins, and annual or every other year fish monitoring for mercury and other contaminants.	Program	N/A	Environmental Mitigation and Monitoring Unit, Environmental Planning Unit	0-10	$$
WQ-04	Continue to partner with the Cities of Gilroy and Morgan Hill and Santa Clara County to identify opportunities and actions to reduce bacteria and sediment loads within the Llagas and Uvas Creeks.	Partner with Cities of Gilroy and Morgan Hill and Santa Clara County (South County) on special studies, structural, and non-structural actions to improve water quality in Llagas and Uvas Creeks. Building off past sampling events, a special study was recently completed at 15 sites to understand/find the source of bacteria . This was sponsored by the South County agencies. The municipalities need additional resources to continue with future studies to help determine best solutions for bacteria and sediment in the Upper Pajaro River watershed.	Partnership	City of Morgan Hill, Santa Clara County	Environmental Planning Unit	0-10	$
WQ-05	Partner with cities to reduce and prevent specific trash dumping areas.	Valley Water has recorded areas along Llagas Creek, Uvas-Carnadero Creek, West Branch Llagas Creek, and Jones Creek in the Pajaro Watershed that experience recurring trash dumping. Partner with cities to identify dumping areas (unrelated to encampments) and track hotspots to prevent dumping and contamination.	Partnership	Cities	Watershed Field Operations Unit	0-10	$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
WQ-06	Partner to construct free span crossings at Carnadero Preserve to enhance water quality and fish passage conditions in Uvas-Carnadero Creek.	There are two wet ford crossings—one across Uvas-Carnadero Creek and another across Gavilan Ditch that drains to the creek—that connect farmland in and around Valley Water's Carnadero Preserve. At high flows and for much of the winter and spring, these crossings are unpassable, seasonally restricting farmers' access to certain portions of land. When they are passable, the crossings degrade water quality due to the release of fine sediment as farm equipment passes through the creek. In addition, the Uvas-Carnadero Creek crossing may impede fish passage. This action would construct free span crossings over Uvas-Carnadero Creek and Gavilan Ditch to allow year-round access to farmland and enhance aquatic habitat by improving water quality and remedying a fish passage impediment. Trout Unlimited, in cooperation with Valley Water and other affected landowners, prepared a design for a free span crossing of Uvas-Carnadero Creek, but the effort still requires permitting, coordination with multiple landowners, and construction funding.	Project	Trout Unlimited, CDFW, National Marine Fisheries Service, CHEER, Willoughby Farms, Dorado Leasing LLC	Environmental Mitigation and Monitoring Unit, Environmental Planning Unit	0-10	$$
Water Supply (WS) - Short Term Actions							
WS-01	Implement recommendations from pre-feasibility study on Flood Managed Aquifer Recharge (FloodMAR).	Flood-MAR feasibility is being analyzed within the Santa Clara County context. Given the rural nature of the Upper Pajaro River Watershed, the majority of potential Flood-MAR sites are expected to be in this watershed in areas that overlie the Llagas Subbasin. A Pre-feasibility report is complete.	Assessment/Study	Santa Clara County, California Department of Water Resources	Water Supply Planning and Conservation Unit, Groundwater Management Unit	0-10	$
WS-04	Assess areas within Llagas subbasin suitable for additional groundwater recharge projects.	Llagas Subbasin has a large potential for additional groundwater recharge. This action identifies additional locations for managed recharge ponds or in-stream facilities with collaboration from Water Supply and Raw Water Operations teams. Identification includes assessment of existing facilities, groundwater data, and a feasibility studies. The San Pedro Ponds, an existing recharge facility in the Llagas Subbasin, were found to have potential for enhancement of recharge capacity in a feasibility study. Improvements may be implemented as part of a future capital improvement project.	Assessment/Study	N/A	Raw Water Field Operations & Pipeline Maintenance Units, Groundwater Mangement Unit, Water Supply Planning and Conservation Unit	0-10	$$$$
WS-05	Implement Pacheco Reservoir Expansion Project.	The Pacheco Reservoir Expansion Project expands the storage capacity of the existing Pacheco Reservoir to 140,000 acre-feet through construction and operation of a new dam, conveyance facilities, and related appurtenant structures. Benefits of this project include a more reliable water source, decreased reliance on groundwater, improving fish habitat, and reducing flood risk along Pacheco Creek and downstream Pajaro River. Action includes planning, design, and construction.	Project	Pacheco Pass Water District	Business Planning and Analysis Unit, Pacheco Project Delivery Unit	0-10	$$$$$

Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
Climate Change (CC) - Short Term Actions							
CC-01	Complete Reservoir Greenhouse Emission Study and evaluate results.	Valley Water is conducting a collaborative project with the University of California, Davis, to study greenhouse gas emissions from the surfaces of Almaden, Chesbro, Stevens Creek, and Uvas reservoirs. The primary goal of the study is to better estimate greenhouse gas emissions from all Valley Water reservoirs. Since January 2021, researchers have completed quarterly sampling to measure gas storage in reservoir sediments and greenhouse gas fluxes from reservoir surfaces in conjunction with monthly measurements of atmospheric and water quality data. Data collection will continue through 2023, and results will be synthesized in a final report. Valley Water will evaluate the inclusion of reservoir-related emissions into its agencywide greenhouse gas inventory and other potential next steps after the completion of this study.	Assessment/Study; Partnership	UC Davis	Unit 248	0-10	$$
Medium Term Actions							
FRR-07	Prepare Asset Management Plan for Uvas Creek	Currently, Uvas Creek possesses creek assets in the moderate risk zone and should be monitored over time. The creek reaches between Highway 25 to Union Pacific Railroad, Babbs Canyon Creek Confluence to Miller Ave, Miller Ave to Santa Teresa Blvd, and Highway 25 to Bloomfield have the most inspection data and moderate risk assets. Fine sediment, erosion, and vegetation in and around the creek pose issues to creek capacity and flood control. Valley Water will create an asset management plan to provide a more proactive approach to managing infrastructure and projects.	Project	N/A	Business Support and Asset Management Unit	10-20	$$
FRR-08	Prepare Asset Management Plan for Lower Llagas Creek	Lower Llagas Creek from Pajaro River to Buena Vista Ave has large quantities of in stream vegetation larger than Valley Water's Stream Maintenance Program can remove. This vegetation is contributing towards flood risk and the disappearance of access roads. Previous inspections of the creek have also found erosion due to rodent damage. Valley Water will create an asset management plan to provide a more proactive approach to managing infrastructure and projects.	Project	N/A	Business Support and Asset Management Unit	10-20	$$
FRR-09	Prepare Asset Management Plan for Upper Llagas Creek	Upper Llagas Creek from Rucker Avenue to Monterey Road has conditions that lower creek capacity and should be monitored over time. Opportunities for improvements include bank stabilization, vegetation control, and sediment reduction to reduce flood risk. Valley Water will create an asset management plan to provide a more proactive approach to managing infrastructure and projects.	Project	N/A	Business Support and Asset Management Unit	10-20	$$
ECO-12	Partner to support efforts to assess, enhance, and manage livestock ponds for habitat benefit.	Stock ponds are important not only for livestock but also can provide critical habitat for native wildlife that have come to depend on these reliable sources of water and wetland habitat. They help maintain biodiversity and can provide for important habitat areas if designed and managed for native species correctly. Valley Water does not own stock ponds, but can support this effort through information and cost sharing and technical support. Management techniques that can promote their use by special-status species may include periodic dredging of sediment filled ponds to increase their hydroperiods (i.e., how long they hold water), eradication of fish originally stocked by ranchers, control of nonnative American bullfrog, installation of basking structures, and fencing of the pond or a portion of the pond (depends on grazing pressures and which special-status species is being managed for).	Partnership	VHA, County Parks, State Parks, USFWS, CDFW, RCDs, native tribes	Environmental Mitigation and Monitoring Unit	11-20	$

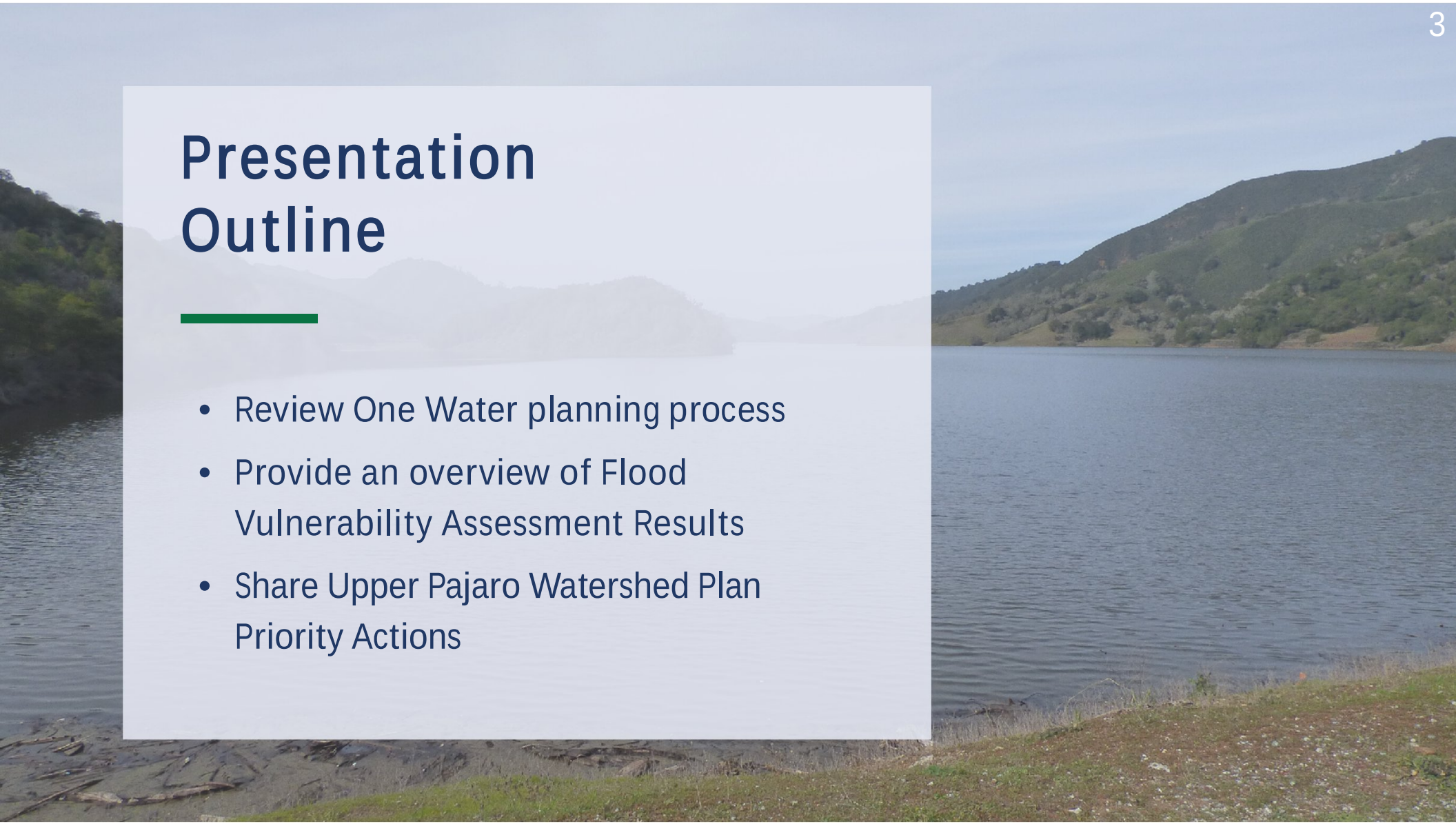
Action Number	Priority Action	Description	Activity Type	Partner Agencies	Involved Valley Water Department	Implementation Timeframe (Years)	Valley Water Cost Estimate*
WS-03	Expand the production and use of recycled water in the South County watershed by studying projects identified in the 2021 Countywide Water Reuse Master Plan and the 2015 South County Recycled Water Master Plan Update.	South County is over 90% reliant on groundwater and there is a need to diversify the water supply portfolio of this area. The 2021 Countywide Water Reuse Master Plan and the 2015 South County Recycled Water Master Plan update provide potential projects to increase the use of recycled and purified water, such as a raw water augmentation projects in Morgan Hill and expanding the South County Recycled Water system.	Project	City of Gilroy, Santa Clara County	Recycled Water Unit	11-20	$$$
Long Term Actions							
WS-02	Complete Uvas-Llagas Transfer Pipeline condition assessment and implement recommendations	The Uvas-Llagas Transfer Pipeline was installed in 1957. The corrugated metal pipe consists of a 39-inch diameter, 14,850-foot-long reach and a 27-inch diameter, 2,375-foot-long reach. It was last inspected in 2022, where 85% of the pipeline was inspected and found to be in good condition. It is recommended to install an additional 1-2 maintenance holes in the pipeline as the current distance between access points is too far. The pipeline is a critical facility that increases redundancy in the system and provides flexibility with regards to water supply sources.	Assessment/Study; Project	N/A	Raw Water Operations Unit	21-50	$$$$
WS-06	Evaluate needed improvements to San Felipe Division Infrastructure and consider replacement projects for parts of the system.	This project implements a systematic approach to the renewal and replacement of infrastructure within the San Felipe Division, by designing and constructing improvements identified through Valley Water's 10-year Asset Management Program. Infrastructure within this project includes tunnels, large diameter pipelines, pumps, valves and other appurtenances, vaults, and associated support equipment. Reach 1 renewal and replacement activities are conducted in coordination and cooperation with San Felipe Division Reach 1 contractors and other agencies. Reaches 2 and 3 renewal and replacement are the sole responsibility of Valley Water, in coordination with USBR (as the owner of the facilities) and regulatory agencies.	Assessment/Study; Project	San Benito County Water District, United States Bureau of Recclmation	Business Planning and Analysis Unit, Raw Water Operations Unit	21-50	$$$$$
WS-07	Implement the Pacheco/Santa Clara Conduit Right of Way Acquisition	Pacheco and Santa Clara Conduits provide raw water supply to Valley Water and San Benito County Water District. Regular access to pipeline vaults is needed by Valley Water for maintenance which requires crews and vehicles to go through private land. While verbal agreements have been established with local landowners, no formal easements are in place. This project plans, designs, and constructs improvements related to the acquisition of right-of-way along the South County pipelines to provide unlimited access to Valley Water-owned pipelines and reduce conflicts with local land owners to improve response time for emergency repairs or operations.	Partnership	San Benito County Water District	Business Planning and Analysis Unit, Pipelines Project Delivery Unit	21-50	$$$

*Cost estimates corresponds to the following maximum dollar values: $ = $100 thousand, $$ = 1 million, $$$ = 10 million, $$$$ = 100 million, $$$$$ = 100+ million



One Water: Upper Pajaro Watershed Plan

Agricultural Water Advisory Committee, January 8, 2024



Presentation Outline

- Review One Water planning process
- Provide an overview of Flood Vulnerability Assessment Results
- Share Upper Pajaro Watershed Plan Priority Actions

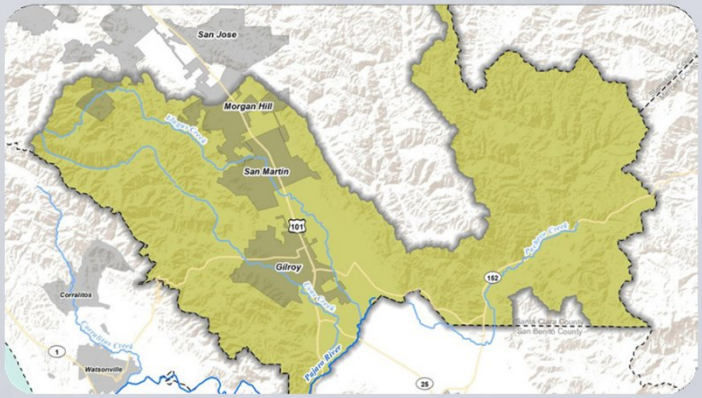
WHAT IS ONE WATER?

Valley Water's integrated master planning process for identifying priority actions and directing Valley Water's resources using measurable metrics and targets

One Water Plans

COUNTYWIDE FRAMEWORK

Provides overall vision, goals and objectives as guidance for all plans



WATERSHED LEVEL PLANS

Specific Plans for each of the five watersheds comprising Valley Water's service area

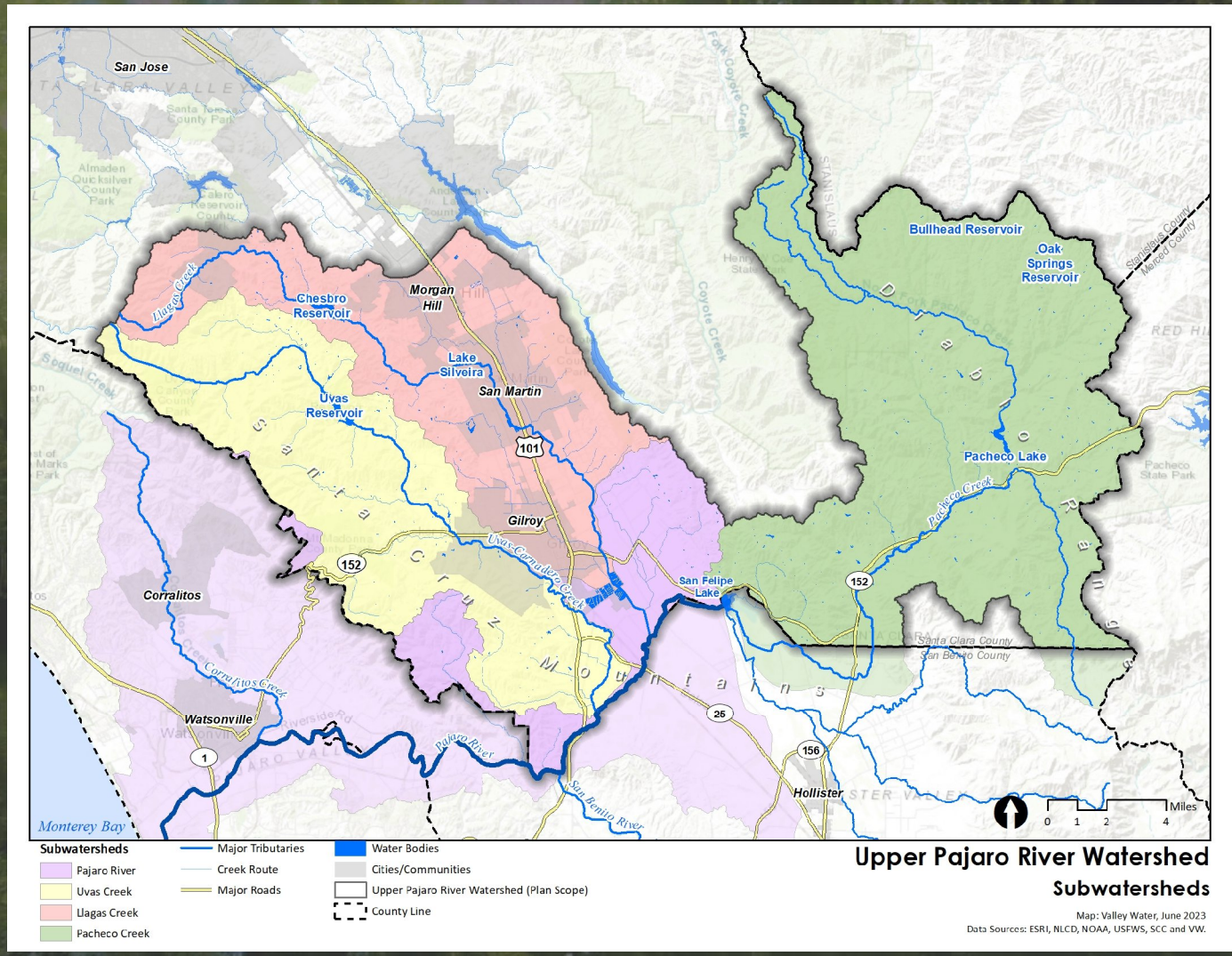
Pajaro River Watershed

1. One Water Planning Process

Upper Pajaro River Subwatersheds

Subwatersheds

- Pajaro River
- Uvas Creek
- Llagas Creek
- Pacheco Creek



One Water Objectives

Water Supply

Flood Risk Reduction

Climate Change

Water Quality

Natural Ecosystem

Valley Water

1. One Water Planning Process

One Water Objectives and Metrics

Water Supply

- Reservoir capacity
- Recycled water production
- Managed recharge capacity
- Annual water conservation

Water Quality

- Chemical integrity (e.g., pH, dissolved oxygen (DO), nutrients, pesticides, regulated contaminants)
- Biological integrity (e.g., bacteria, harmful algal blooms, invasive species, toxicity, fish tissue, mercury)
- Physical integrity (e.g., temperature, turbidity, trash)

Flood Risk Reduction

- Asset management
- Emergency action plans
- Flood forecasts
- Parcels subject to frequent flooding
- Flood risk in disadvantaged communities

Natural Ecosystems

- California Rapid Assessment Method (CRAM) scores
- Protected stream buffers
- Wildlife corridor enhancements
- Natural habitat area
- Invasive plant coverage
- Fish passage barriers
- Riparian corridor connectivity

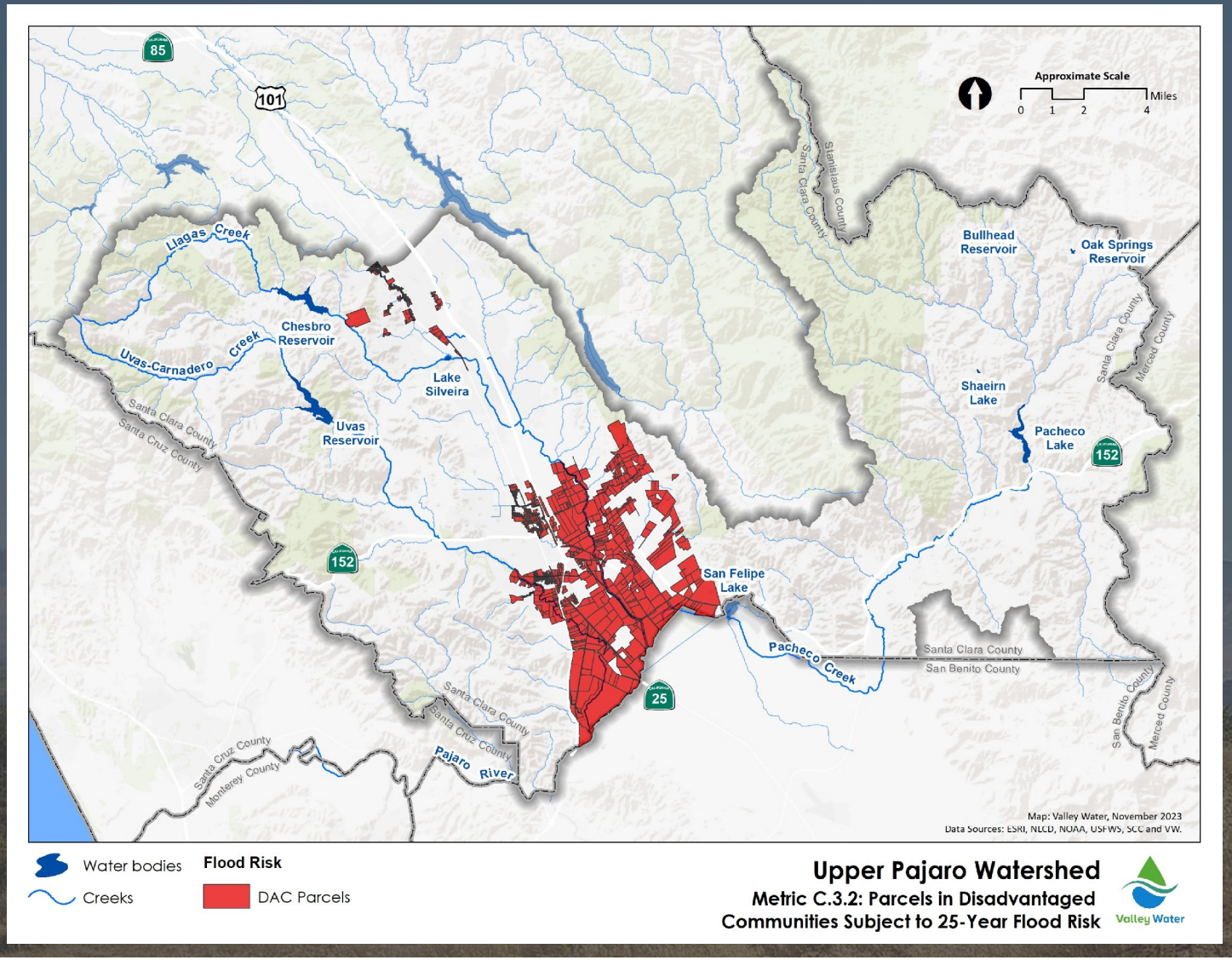
Climate Change

- Net GHG emissions
- Green stormwater infrastructure
- Annual water conservation
- Critical facilities subject to severe floods
- Stream channel length and connectivity

Flood Risk Reduction Metric C.3.2

Target: Zero parcels in disadvantaged communities located within the 25-year floodplain

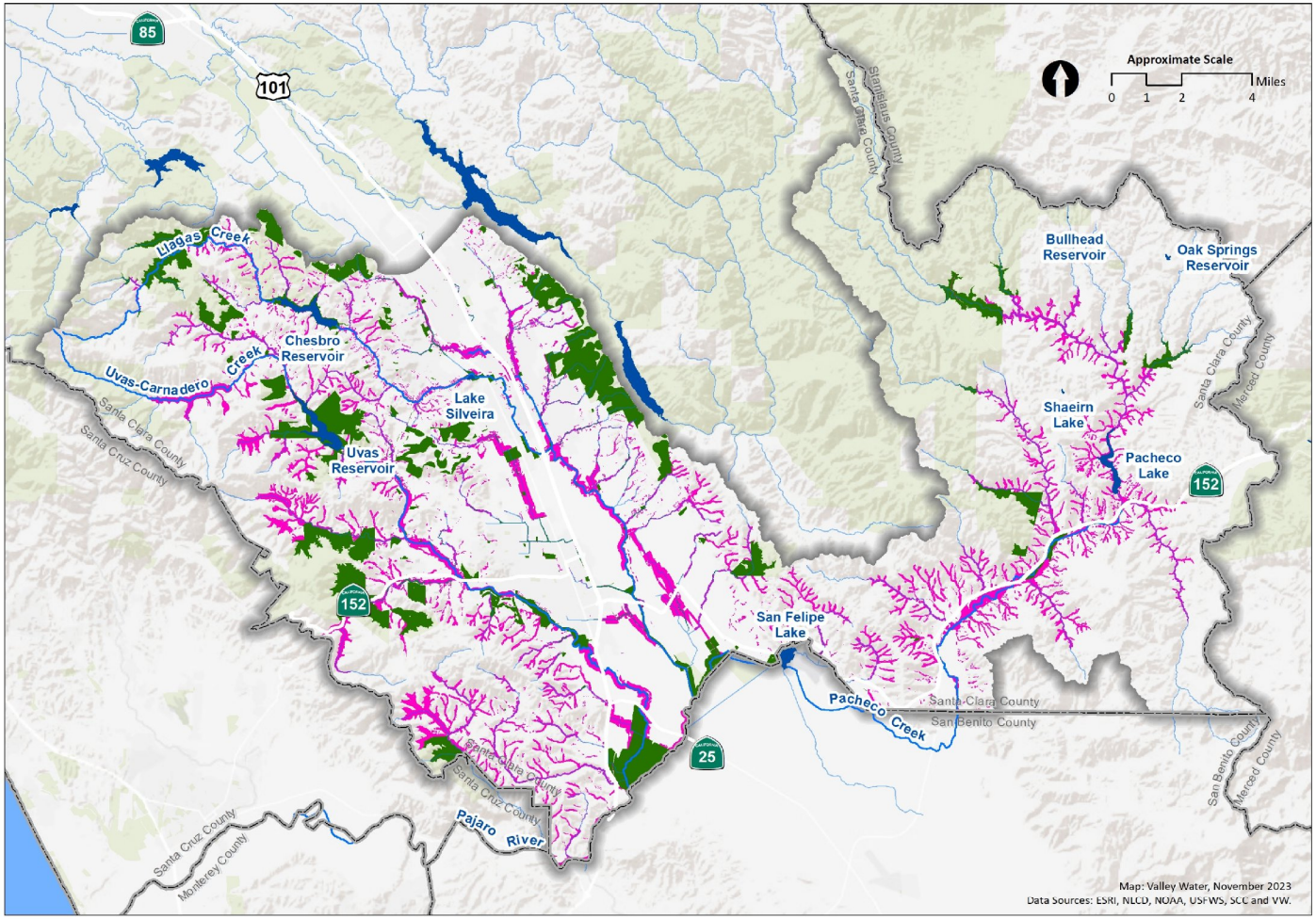
- 24% Complete



Natural Ecosystems Metric D.1.2

Target: Achieve 50,000 acres of protected land for the mainstem and tributary channels

- 32% Complete



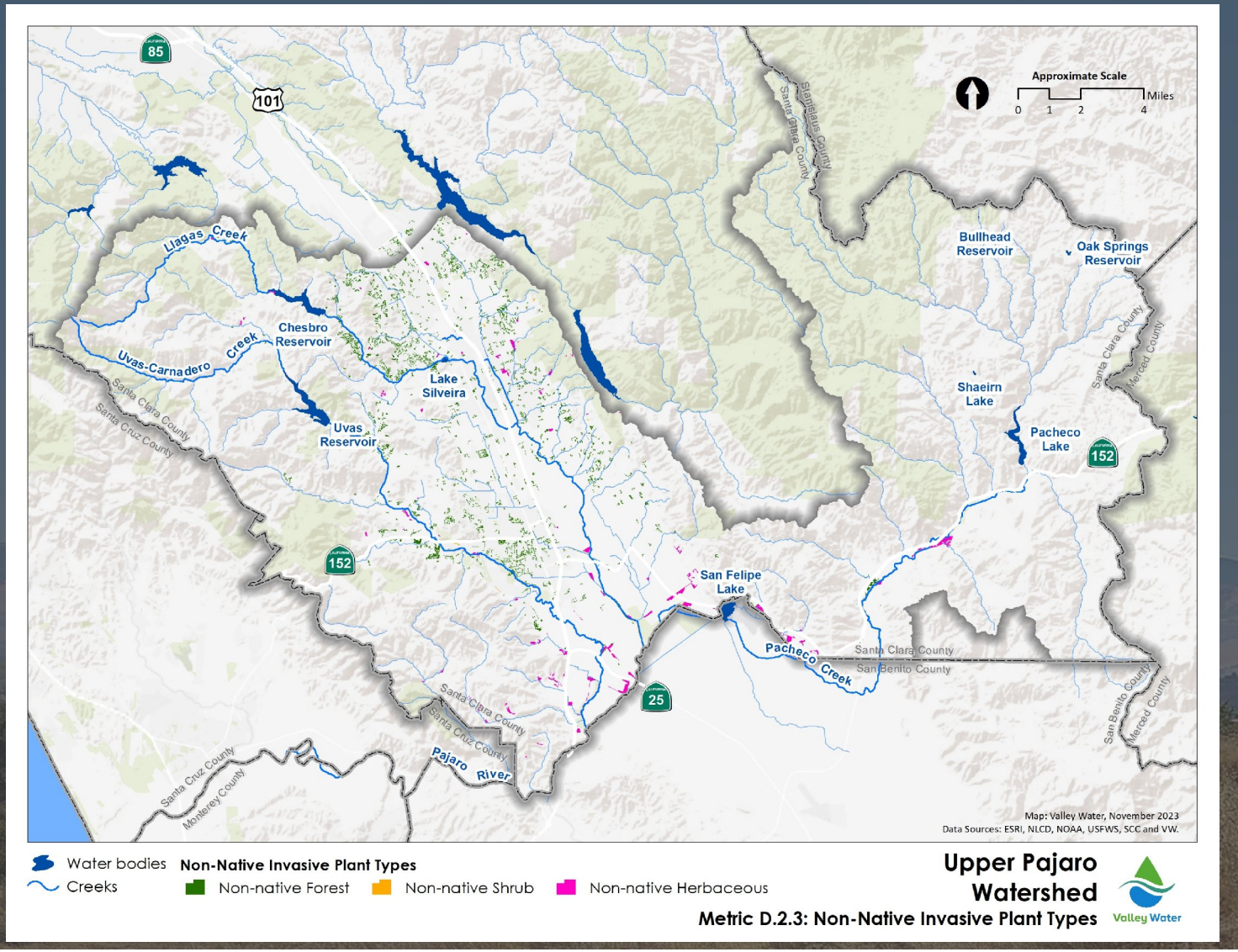
Natural Ecosystems Metric D.2.3

Target: Non-native forest remains at 730 acres or 3% of total riparian area

- 100% Complete

Non-native shrub and non-native herbaceous remain at less than 1% of total riparian area

- 100% Complete



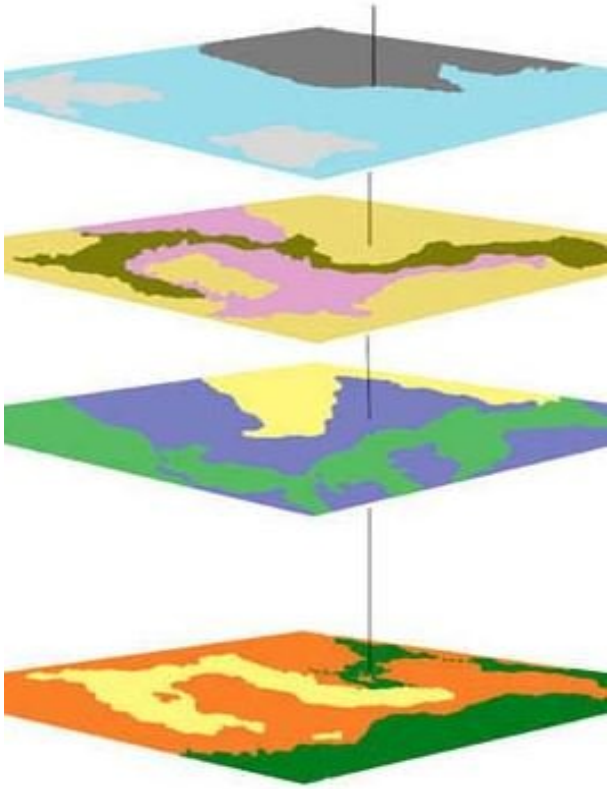
FLOOD VULNERABILITY ASSESSMENT

Flood Vulnerability Assessment

Physical Hazard
- Flood Depths
- Flood Velocities

Statistical Hazard
- FIT Hot Spots
- Historical Flooding

Social Vulnerability
- Critical Facilities
- CalEnviroScreen 4.0
- Area Median Income

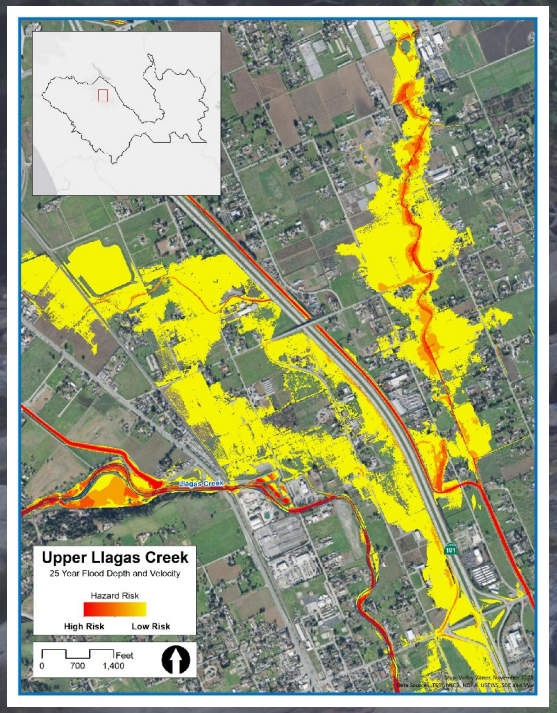


Valley Water

Physical

Statistical and Social

Combined Vulnerability Map



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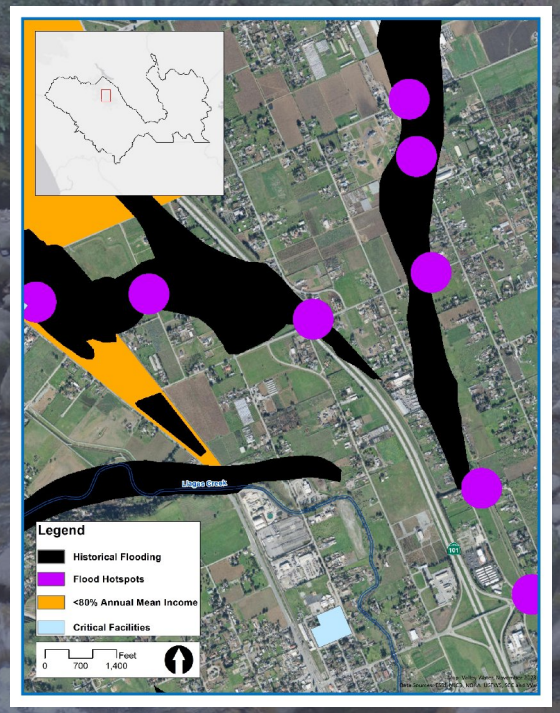

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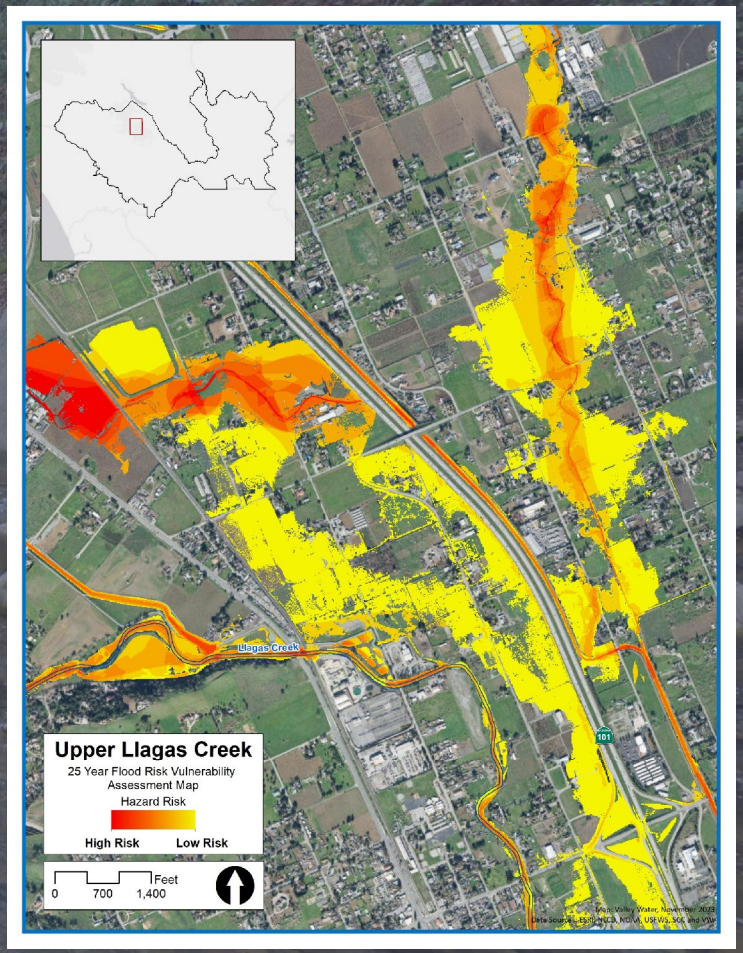
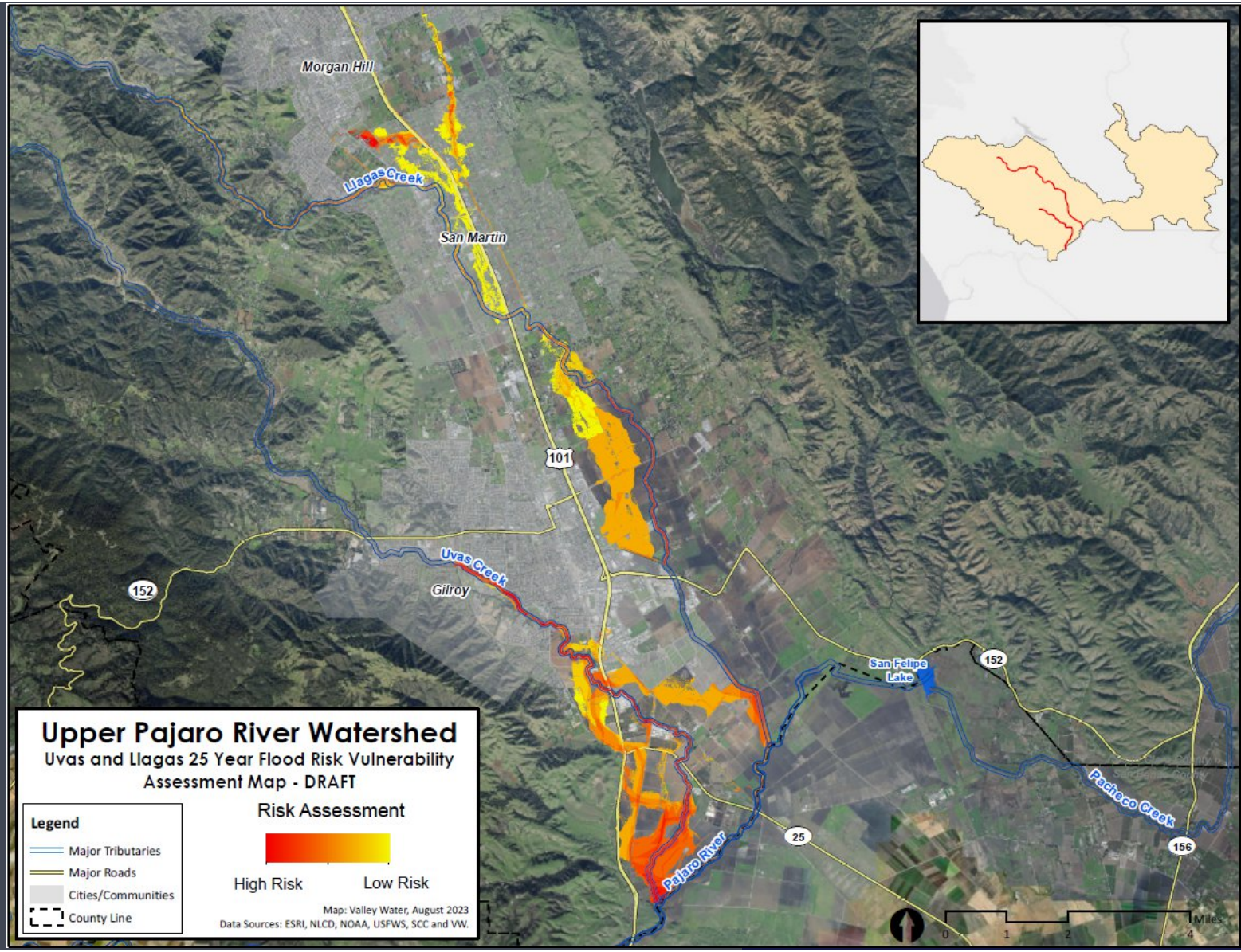


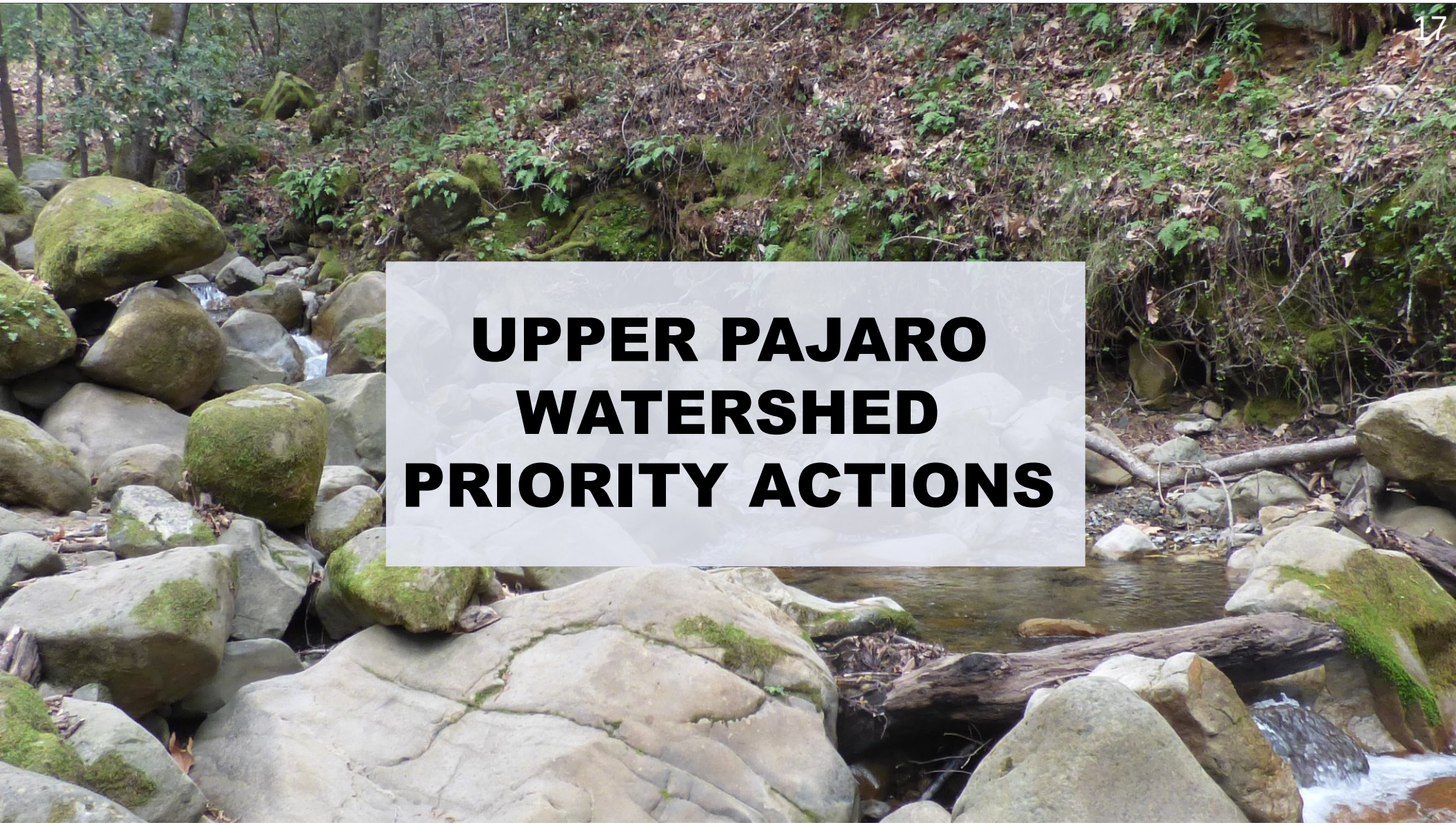
2. Flood Vulnerability Assessment

Draft Results: 25-Year (4%) Flood

Uvas and Llagas Creeks



Valley Water



UPPER PAJARO WATERSHED PRIORITY ACTIONS

Developing and Refining Watershed Priority Actions

Collaborative process

- One Water Team
- Valley Water Subject Matter Experts
- Valley Water Steering Committee
- External Stakeholders

Feedback collected through

- Online surveys
- Virtual meetings
- In-person workshops

External Stakeholders

11

COHORTS

104

ORGANIZATIONS/AGENCIES/BUSINESSES

~200

INDIVIDUAL CONTACTS

- Subject Matter Experts
- Local & County Governments
- Community Based Organizations
- Special Districts
- Regulatory Agencies
- Residents/Municipal Organizations
- Businesses
- Environmental Groups
- Farmers/Ranchers

Priority Action Overview

46 actions across 5 One Water objectives

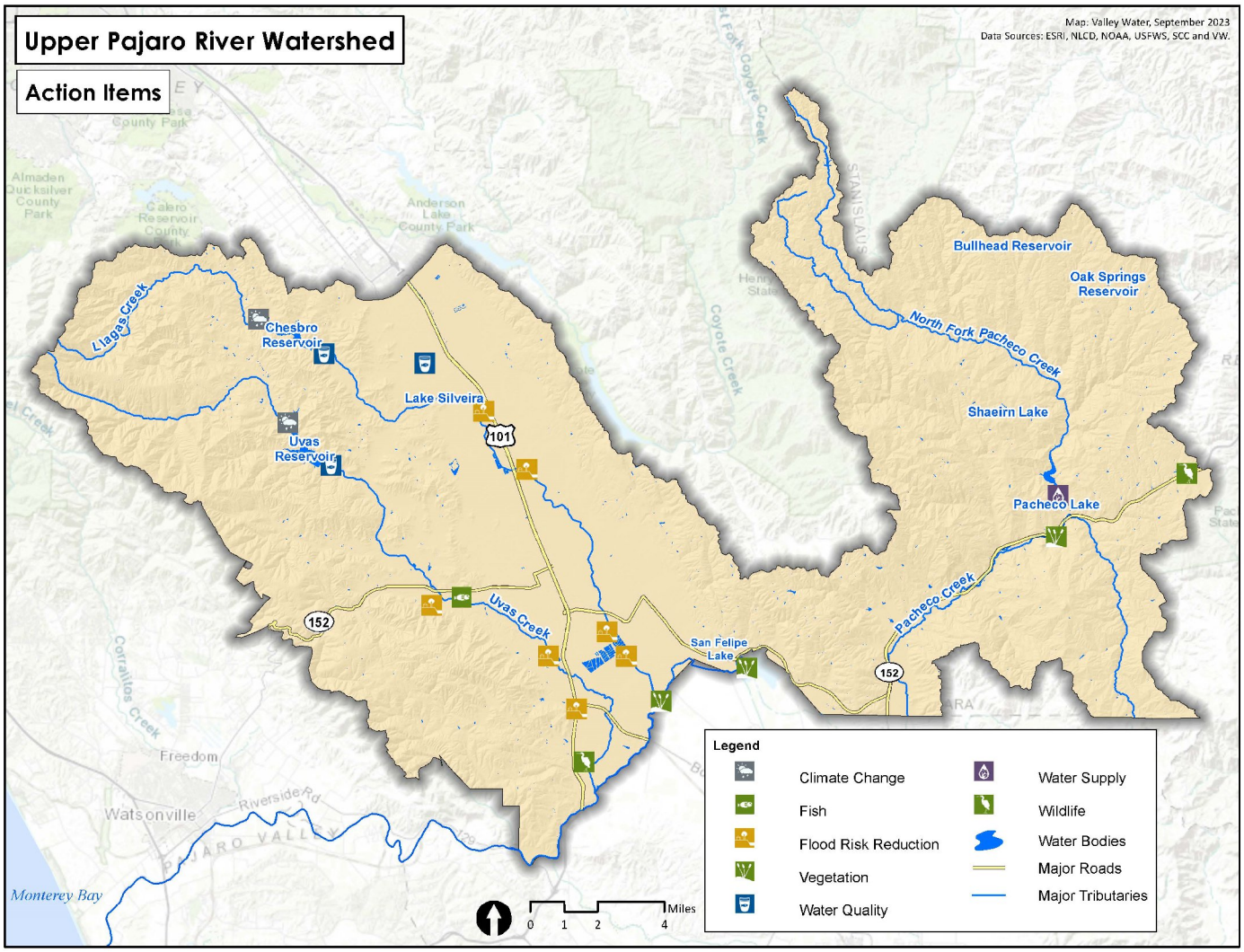
1 Climate Change

22 Ecological Resources

11 Flood Risk Reduction

7 Water Supply

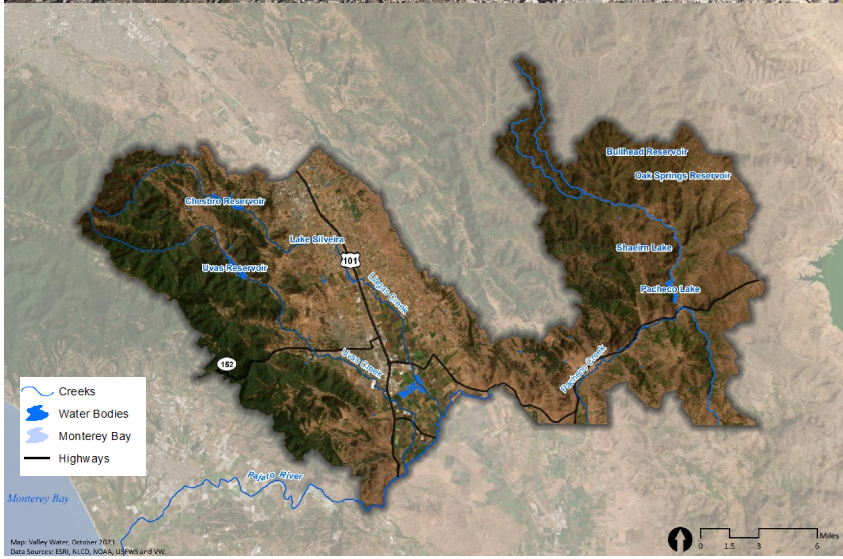
5 Water Quality



Watershed Scale Priority Actions

Short-Term

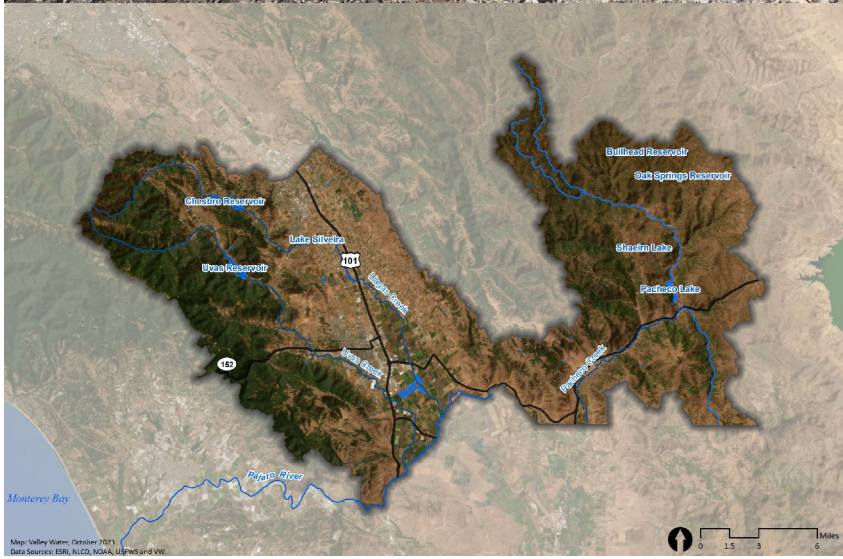
- Develop a program and best management practices to incorporate tribal involvement, traditional ecological knowledge, and cultural resource protection into watershed actions (ECO-03)
- Continue and expand the temperature monitoring program on Llagas, Uvas, and Pacheco Creeks and use results to inform future habitat enhancement actions (ECO-05)
- Assess modified channels to identify strategies and priorities to enhance ecological conditions (ECO-06)
- Identify locations and strategies to remove non-native vegetation that has encroached upon and is stabilizing gravel bars (ECO-07)
- Develop Upper Pajaro Native Ecosystem Enhancement Tool to coordinate and inform long term habitat conservation planning (ECO-15)
- Incorporate restoration of areas impacted by unhoused encampments into Stream Maintenance Program (ECO-16)
- Develop and incorporate vegetation cover guidelines for use when developing project mitigation to decrease wildfire risk to native habitats (ECO-17)



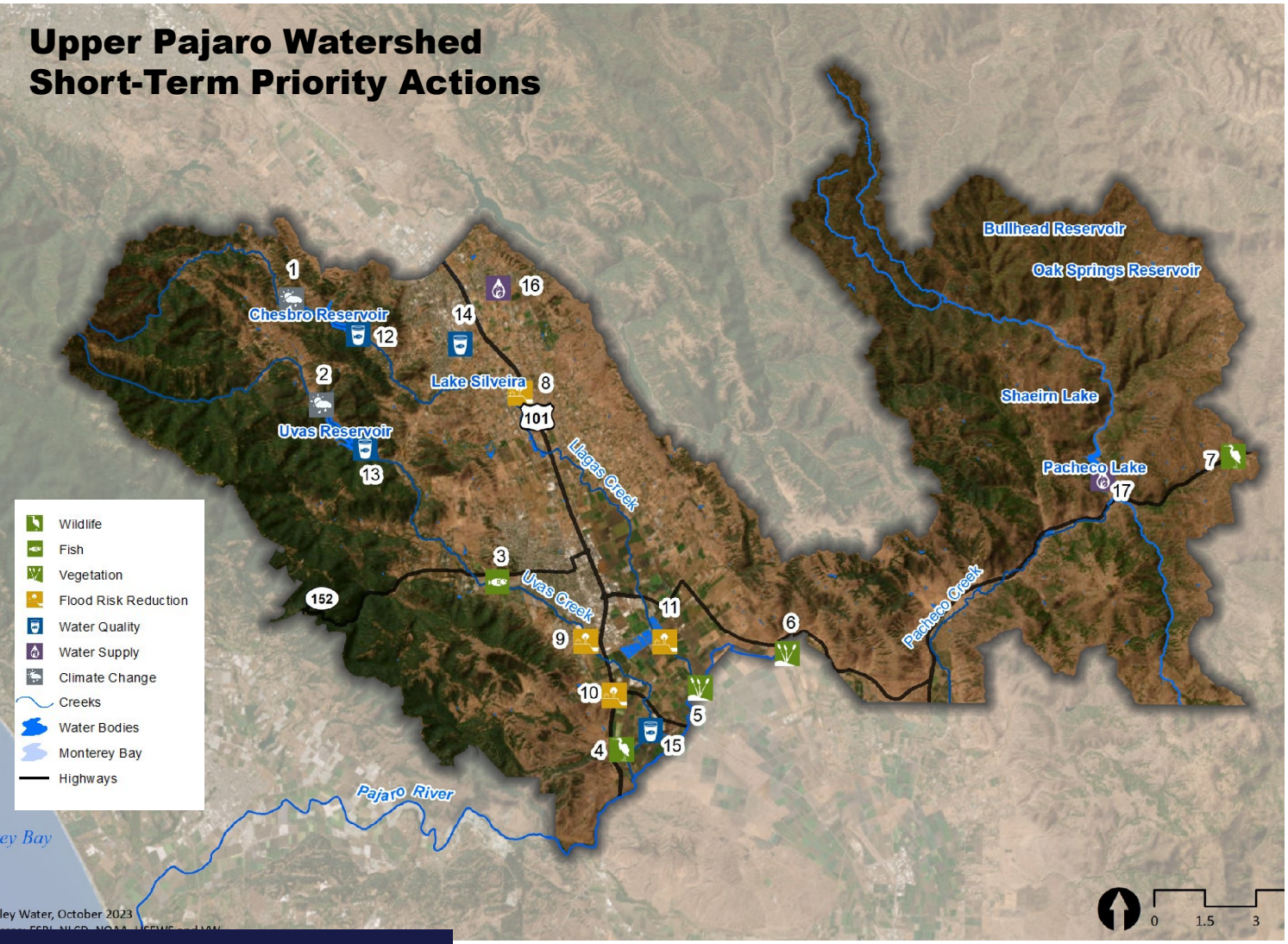
Watershed Scale Priority Actions

Short-Term

- Identify and assess open space areas adjacent to creeks compatible with flood detention and environmental protection for incorporation into future flood protection projects (FRR-01)
- Analyze flood risk by completing hydraulic modeling for the Upper Pajaro Watershed (FRR-04)
- Request updates to FEMA floodmaps and flood zone designations upon completion of hydraulic modeling (FRR-05)
- Improve coordination for intercounty flood protection and by maintaining communication and information sharing with partner agencies (FRR-10)
- Support efforts led by Resource Conservation Districts, Natural Resource Conservation Service, and Santa Clara County Division of Agriculture to educate and assist farmers and landowners in implementing land management practices to improve water quality and enhance natural resources (WQ-01)
- Partner with Santa Clara County, cities, and other organizations to reach a functional zero number of unsheltered people residing on Valley Water lands along waterways (WQ-02)
- Partner with cities to reduce and prevent specific trash dumping areas (WQ-05)
- Implement recommendations from pre-feasibility study on Flood Managed Aquifer Recharge (FloodMAR) (WS-01)



Upper Pajaro Watershed Short-Term Priority Actions



Priority Actions

1: Complete Chesbro Reservoir Greenhouse Emission Study And Evaluate Results (CC-01)

2: Complete Uvas Reservoir Greenhouse Emission Study And Evaluate Results (CC-01)

3: Improve Suitable Spawning And Rearing Habitat For Steelhead Trout And Salmon By Adding Coarse Sediment And Large Wood To Creeks (ECO-14)

4: Expand And Enhance Riparian And Wetland Habitat At The Carnadero Preserve (ECO-04)

5: Expand And Enhance Floodplain At Pajaro River Agricultural Preserve (ECO-01)

6: Parter With Organizations In San Benito County To Conserve And Enhance San Felipe Lake (ECO-02)

7: Participate In Development Of The Pacheco Pass Wildlife Overpass Planning Project (ECO-09)

8: Complete Upper Llagas Creek Flood Protection Project (FRR-06)

9: Complete Planning Study for Uvas-Carnadero Creek Flood Protection Project (FRR-11)

10: Implement US 101/SR 25 Interchange Project - Phase I (FRR-03)

11: Complete Planning And Design For Lower Llagas Creek Capacity Restoration Project (FRR-02)

12: Implement Regular Quarterly Monitoring At Chesbro Reservoir (WQ-03)

13: Implement Regular Quarterly Monitoring At Uvas Reservoir (WQ-03)

14: Identify Opportunities And Actions To Reduce Bacteria And Sediment Loads Within The Llagas And Uvas Creeks (WQ-04)

15: Partner To Construct Free Span Crossings At Carnadero Preserve To Enhance Water Quality And Fish Passage Conditions In Uvas-Carnadero Creek (WQ-06)

16: Assess Areas Within Llagas Subbasin Suitable For Additional Groundwater Recharge Projects (WS-04)

17: Implement Pacheco Reservoir Expansion Project (WS-05)

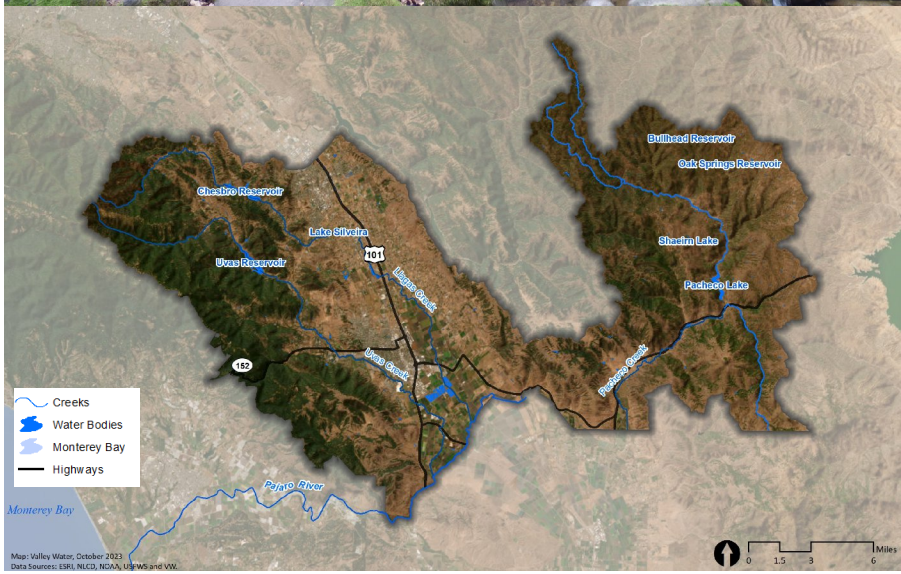
Watershed Scale Priority Actions

Medium-Term

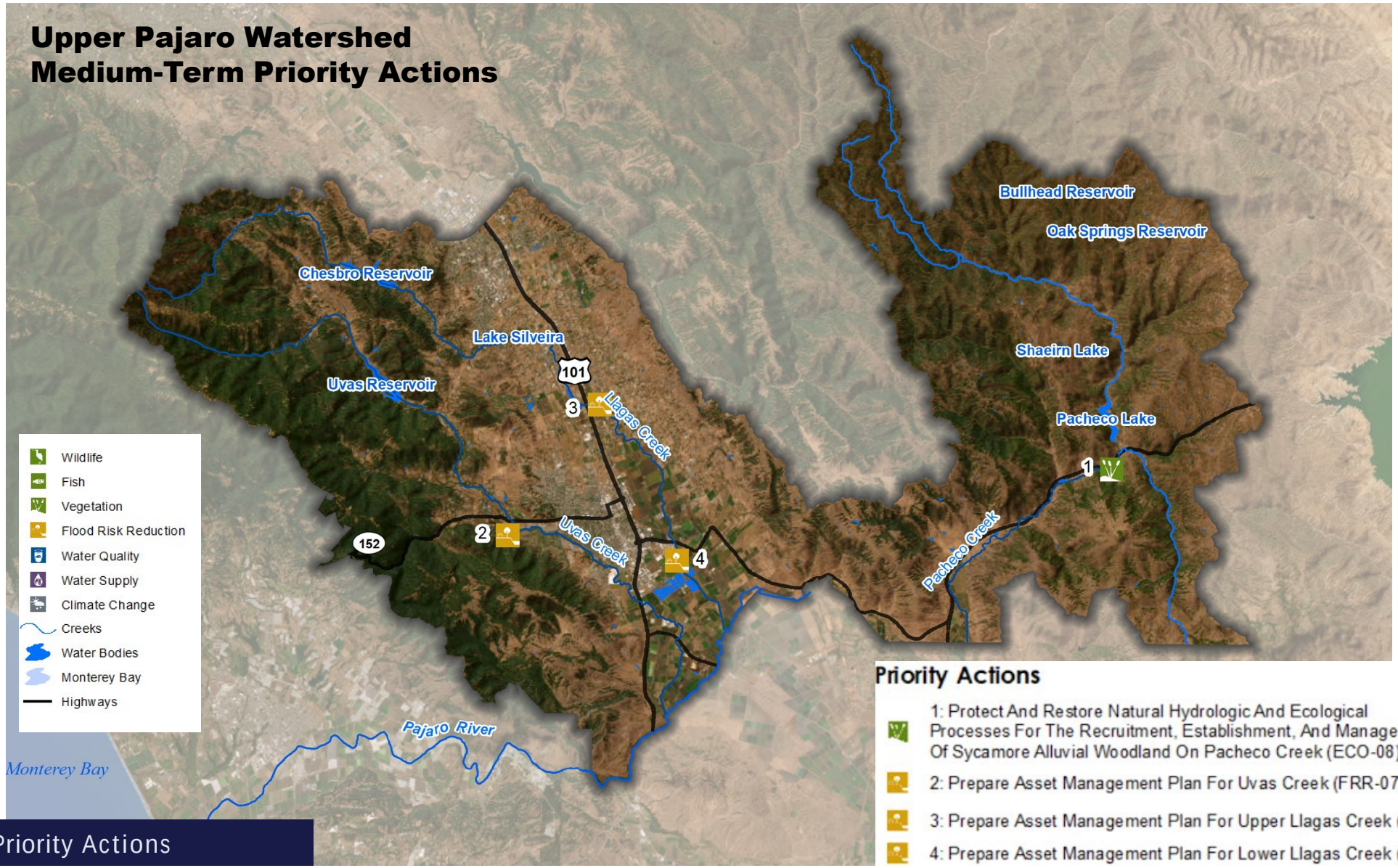
- Assess fish passage barriers and impediments throughout watershed and prioritize their remediation (ECO-10)
- Assess and prioritize opportunities to expand and connect riparian corridors around channels, particularly where they are missing or only very narrow (ECO-11)
- Partner to protect and conserve sensitive natural communities (ECO-13)
- Expand the production and use of recycled water in the South County watershed by studying projects identified in the 2021 Countywide Water Reuse Master Plan and the 2015 South County Recycled Water Master Plan Update (WS-03)

Long-Term

- Partner to support efforts to assess, enhance, and manage livestock ponds for habitat benefit (ECO-12)
- Complete Uvas-Llagas Transfer Pipeline condition assessment and implement recommendations (WS-02)
- Evaluate needed improvements to San Felipe Division Infrastructure and consider replacement projects for parts of the system (WS-06)
- Implement the Pacheco-Santa Clara Conduit Right of Way Acquisition (WS-07)



Upper Pajaro Watershed
Medium-Term Priority Actions



Priority Actions

1: Protect And Restore Natural Hydrologic And Ecological Processes For The Recruitment, Establishment, And Management Of Sycamore Alluvial Woodland On Pacheco Creek (ECO-08)

2: Prepare Asset Management Plan For Uvas Creek (FRR-07)

3: Prepare Asset Management Plan For Upper Llagas Creek (FRR-09)

4: Prepare Asset Management Plan For Lower Llagas Creek (FRR-08)

Next Steps

- Incorporate feedback from Committee
- Finalize Watershed Plan
- Seek adoption of Plan by Board of Directors

QUESTIONS

File No.: 23-1272

Agenda Date: 1/8/2024
Item No.: 4.6.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Review Agricultural Water Advisory 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 topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan is agendized at each meeting as accomplishments are updated and to review any 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.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Agricultural Water Advisory Committee (AWAC) 2023 Work Plan

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

2024 Work Plan: Agricultural Water Advisory Committee

Update: December 2023

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 BOARD POLICY	MEETING DATE	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
1	**Election of Chair and Vice Chair for 2024**	January 8	•Committee Elects Chair and Vice Chair for 2024. **(Action)**	
2	**Annual Accomplishments Report**	January 8	•Review and approve 2023 Accomplishments Report for presentation to the Board. **(Action)** •Submit requests to the Board, as appropriate.	
3	**Review and Comment to the Board on the Fiscal Year 2024 – 2025 Preliminary Groundwater Production Charges**	January 8	•Review and comment to the Board on the Fiscal Year 2024-2025 Preliminary Groundwater Production Charges. **(Action)** •Submit requests to the Board, as appropriate.	
4	**Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050.**	January 8	•Receive Information and Provide Feedback on the Development of Valley Water's Water Supply Master Plan 2050.	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
5	**Review of Agricultural Water Advisory Committee Work Plan, the Outcomes of Board Action of Committee Requests and the Committee's Next Meeting Agenda**	January 8 April 8 July 1 October 7	•Receive and review the 2023 Board-approved Committee work plan**. (Action)** •Submit requests to the Board, as appropriate.	
6	**Standing Items Report Fiscal Year 2024 Goals and Strategies:**	January 8 July 1	•Receive quarterly reports on standing items, FY2024. **(Information)**	
BOARD WORK PLAN GOALS: 1. **Integrated Water Resources Management** - Goal: Efficiently manage water resources across business areas. 2. **Water Supply** – Goal: Provide a reliable, safe, and affordable water supply for current and future generations in all communities served. 3. **Natural Flood Protection –** Goal: Provide natural flood protection to reduce risk and improve health and safety. **4. Environmental Stewardship** – Goal: Sustain ecosystem health while managing local water resources for flood protection and water supply. 5. **Addressing Encampment of Unsheltered People** – Goal: Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments. 6. **Climate Change** – Goal: Mitigate carbon emissions and adapt Valley Water operations to climate change impacts. **7. Business Management** – Goal: Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.				
7	**Review Proposed Fiscal Year 2024-25 Groundwater Production Charges and Receive Committee Feedback**	April 8	•Review Proposed Fiscal Year 2024-25 Groundwater Production Charges and Receive Committee Feedback. **(Action)**	
8	**Receive an update of Valley Water's activities of the Unhoused and information on how enforcement of**	TBD	•Receive an update of Valley Water's activities of the Unhoused and information on how the enforcement of violations of companies are handled within the	

Yellow = Update Since Last Meeting
Blue = Action taken by the Board of Directors

ITEM	WORK PLAN ITEM BOARD POLICY	MEETING DATE	INTENDED OUTCOME(S) (Action or Information Only)	ACCOMPLISHMENT DATE AND OUTCOME
	violations of companies are handled within the County		County. •Board is requesting the committee give more detailed information on this item for the Board's consideration.	
9	**Review Climate Change and the benefits of ecosystems on Agriculture in Santa Clara County**	TBD	•Discuss how climate change impacts the benefits of ecosystems on agriculture within Santa Clara County.	

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File No.: 23-1274

Agenda Date: 1/8/2024
Item No.: 5.1.

COMMITTEE AGENDA MEMORANDUM
Agricultural Water Advisory Committee

Government Code § 84308 Applies: Yes ☐ No ☒
(If "YES" Complete Attachment A - Gov. Code § 84308)

SUBJECT:
Standing Items Report.

RECOMMENDATION:
Standing Items Report
This item allows the Agricultural Water Advisory Committee to receive verbal or written updates and discuss the Board's Fiscal Year 2023-2024 Work Plan Strategies. These items are generally informational; however, the Committee may request additional information and/or provide collective input to the assigned Board Committee.

SUMMARY:
The Agricultural Water Advisory Committee was established to assist the Board with policy review and development, provide comment on activities in the implementation of Valley Water's mission, and to identify Board-related issues.

On January 2022, the Board of Directors approved aligning the Board Advisory Committees' agendas and work plans with the Board's yearly work plan.

The new agenda format will allow regular reports on the Board's priorities from the Board's committees and/or Board committee representative and identify subjects where the committees could provide advice to the Board on pre-identified subjects in a timely manner to meet the Board's schedule and distribute information/reports that may be of interest to committee members.

ENVIRONMENTAL JUSTICE IMPACT:
There are no Environmental Justice impacts associated with this item.

ATTACHMENTS:
Attachment 1: Board Work Plan Standing Items Report

UNCLASSIFIED MANAGER:
Candice Kwok-Smith, 408-630-3193

FY2022-2023 BOARD WORK PLAN – STANDING ITEMS REPORT

December 2023

INTEGRATED WATER RESOURCES MANAGEMENT GOAL: Efficiently manage water resources across business areas.	
Objective 1:	**Protect and maintain existing assets and infrastructure and advance new projects.**
Updates:	• On September 19, 2023, the Valley Water Board of Directors held a special workshop to review and provide feedback on the Capital Projects included in the Five-Year Capital Improvement Program funded by the Water Utility Enterprise Fund. • Valley Water's Water Quality Lab received recognition from the Environmental Laboratory Accreditation Program (ELAP) for its proactive implementation of The TNI standard. The recognition comes after completing the lab's on-site audit, where the program commended Valley Water for its commitment to protecting environmental and public health by producing reliable data. The Water Quality Lab is also accredited to test 29 PFAS compounds, also known as "forever chemicals," which puts it amongst a select few utility laboratories in the State of California that have this specialized testing capability.
Objective 2:	**Improve internal capacity to negotiate and acquire regulatory permits.**
Updates:	• In September 2023, Valley Water hosted an environmentally-focused stakeholders Meeting of a diverse cross-section of environmental leaders to discuss how we can best work together to better accomplish mutually beneficial projects and shared goals, including climate resiliency, environmental stewardship, and potential areas for partnership associated with Valley Water's key projects and priorities.
Objective 3:	**Educate the community, elected officials and external stakeholders on our management of water resources in Santa Clara County.**
Updates:	• Valley Water released the first installments of an environmental video series highlighting Valley Water's commitment to environmental stewardship. Videos released so far this fiscal year include: "The Transformation of Lake Silveira," "Saving the Coyote Ceanothus," and "Monitoring Fish in Santa Clara County." Videos can be found through Valley Water's social media and YouTube channels. • On November 17, 2023, Valley Water held a Special Joint Meeting with the City of San Jose and discussed: emergency preparedness, the South San Francisco Bay Shoreline Project Phase I, purified and recycled water, the Anderson Dam Seismic Retrofit Project and Coyote Creek Flood Protection Project, and coordination on unhoused issues. • In November 2023, Valley Water executive staff met with officials in Washington, DC, to advocate for federal funding and policies that will help advance Valley Water projects including the Anderson Dam Seismic Retrofit Project, South San Francisco Bay Shoreline Project, Recycled and Purified Water Program, Upper Guadalupe River Project, and more. Valley Water received positive feedback about the progress we have made on these projects, along with continued support for funding and resolving regulatory issues. • To date in FY24, Valley Water's Education Outreach Program presented to: 2,730 students and educators, and 900 members of the public. • To date in FY24, Valley Water provided Water Infrastructure & Advanced Water Purification Center Tours to 897 individuals.

WATER SUPPLY GOAL: Provide a reliable, safe, and affordable water supply for current and future generations in all communities served.	
Objective 1:	**Pursue new and diversified water supply and storage opportunities.**
Updates:	• In October 2023, Valley Water closed on a $92 million Water Infrastructure Finance and Innovation Act (WIFIA) planning and design loan with the US Environmental Protection Agency (EPA) for the Pacheco Reservoir Expansion Project, at an interest rate of 5.08%. Total principal and interest cost for the loan is currently projected at $285.7 million. The WIFIA loan is projected to save Valley Water $45 million over the life of the loan, as compared to issuing long-term debt in the capital markets. Execution of the loan does not commit the Board to take any definitive action with regard to the project. No interest costs will be incurred until the loan is drawn upon, which is not anticipated to occur in Fiscal Year's 2024 or 2025. • On December 8, 2023, the California Department of Water Resources (DWR) reached a significant milestone by releasing the final Environmental Impact Report (EIR) for the Delta Conveyance Project, the State of California's proposed plan to improve the infrastructure that carries water through the Sacramento-San Joaquin Delta. Valley Water will review the final EIR and use it as one of many pieces of information to help inform decisions regarding the project.
Objective 2:	**Secure existing water supplies and water supply infrastructure**
Updates:	• On September 19, 2023, the Valley Water Board of Directors held a special workshop to receive an update and provide feedback on the Water Supply Master Plan 2050 planning and development. • On December 1, 2023, the Department of Water Resources (DWR) announced an initial State Water Project (SWP) allocation of 10% for Valley Water. As is typical of DWR's approach to developing the SWP allocation, the initial allocation is a conservative initial assessment that will be updated through the winter and spring to reflect ongoing precipitation activity and storage levels. The December 10% allocation reflects the fact that storage levels in the State Water Project system are healthy (above average storage levels), but that hydrologic conditions in October and November were significantly drier than average. The allocation also conservatively assumes that dry conditions will continue in 2024.
Objective 3:	**Lead purified water efforts with committed partners.**
Updates:	• Valley Water secured $680,429 in grant awards from the U.S. Bureau of Reclamation (USBR) Water Recycling and Desalination Planning Fund. $299,180 in grant funding will support the South County Water Reuse Program Feasibility Study Project and $381, 249 will support the San José-Santa Clara Purified Water Program Feasibility Study. • On October 4, 2023 Valley Water hosted a ribbon cutting for the South County Recycled Water Pipeline Project at the South County Regional Wastewater Authority. • In September 2023, Valley Water participated as part of a panel of several water agencies and technical experts assembled by WateReuse California to deliver comments to the California State Water Resources Control Board (Water Board) regarding Direct Potable Reuse (DPR) regulations. In December 2023, the Water Board voted in favor of new DPR regulations.
Objective 4:	**Complete the Anderson Dam Seismic Retrofit Project.**

Updates:	• In September 2023, Valley Water released the Draft Environmental Impact Report (EIR) for the Anderson Dam Seismic Retrofit Project. • On October 4, 2023, Valley Water hosted a public meeting on the Draft Environmental Impact Report for the Anderson Dam Seismic Retrofit Project at the Morgan Hill Community and Cultural Center. The hybrid meeting drew 107 attendees. • At the November 14, 2023 Board Meeting, staff provided an update to the Board of Directors on the status of the Anderson Dam Seismic Retrofit Project and Federal Energy Regulatory Commission Order Compliance Project. • Work continues on the Anderson Dam Outlet Tunnel Project. Contractors have excavated more than 1,000 feet of the 1,736-foot-long tunnel, which will provide greater control over reservoir water levels.
Objective 5:	**Making water conservation a California way of life in Santa Clara County.**
Updates:	• In October 2023, Valley Water was awarded WaterSense Partner of the Year by the U.S. Environmental Protection Agency. This is a competitive national award recognizing agencies that have gone above and beyond to promote an ethic of water efficiency to conserve water resources for future generations. As a first-time applicant, Valley Water won the award thanks to our outstanding water conservation programs and the collaboration and outreach efforts with our partners in the community to save water during our record-breaking drought in 2022.

NATURAL FLOOD PROTECTION GOAL: Provide Natural Flood Protection to reduce risk and improve health and safety.	
Objective 1:	**Protect people and property from flooding by applying a comprehensive, integrated watershed management approach that balances environmental quality, sustainability, and cost.**
Updates:	• In September 2023, Valley Water completed emergency construction on Regnart Creek in Cupertino to help stabilize the creekside so stormwater could safely flow downstream and away from the surrounding neighborhood in preparation for the upcoming rainy season.
Objective 2:	**Provide flood protection equitably in all regions of the County, prioritizing disadvantaged communities.**
Updates:	• Valley Water completed stream maintenance program work from June to October 2023, removing over 45,000 cubic yards (CY) of sediment for capacity and repairing over 1,200 linear feet (LF) of creek bank. Field crews continue monitoring over 275 locations countywide before, during, and after storm events to eliminate flow restrictions. • On October 25, 2023, Valley Water hosted a news conference for California Flood Preparedness Week to promote our Stream Maintenance Program and Get Flood Ready campaign and highlight our partnerships with the City of San José and other agencies. • On November 13, 2023, Valley Water and the City of San José held a joint news conference to outline storm emergency plans, the partnership between the two agencies, and our collaboration on the Coyote Creek Flood Measures Management Project. A toolkit with flood preparedness resources was shared with partner agencies and government officials. • On November 16, 2023, Valley Water provided a Winter Preparedness Workshop to the Santa Clara County Operational Area Council that acknowledges efforts to support flood readiness throughout the year. Valley Water will continue to work with regional partners to support storm-related response as needed.

	• Valley Water's annual Flood Awareness Campaign was launched with the delivery of the flood mailer to 48,000 homes and businesses in the Federal Emergency Management Agency's Special Flood Hazard Area.

ENVIRONMENTAL STEWARDSHIP GOAL: Sustain ecosystem health while managing local water resources for flood protection and water supply.	
Objective 1:	**Plan and design projects with multiple benefits, including protecting ecosystem functions, enhancing habitat, and improving connectivity, equitably in all regions of the county.**
Updates:	• As part of the One Water Plan, Valley Water continues to develop watershed plans for Upper Pajaro River and Guadalupe River Watershed and expects to recommend finalized plans to the Board before the end of fiscal year 2024.
Objective 2:	**Protect creeks, bay, and other aquatic ecosystems from threats of pollution and degradation.**
Updates:	• On August 22, 2023, Valley Water's Board of Directors allocated additional resources to expand the level of service for cleanups of trash and debris generated from encampments in Santa Clara County. • September 21, 2023 was Coastal Cleanup Day in Santa Clara County. The annual event attracted 1,209 volunteers to 53 cleanup sites countywide. Over 27,000 pounds of trash and recyclables were removed. • Total Clean Up Numbers FY24 to date: 1,376 Volunteers and 34,000 pounds of trash & recyclables removed.
Objective 3:	**Complete and implement the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) agreement.**
Updates:	• On August 8, 2023, Valley Water's Board of Directors certified the Final Environmental Impact Report (EIR) for the Fish and Aquatic Habitat Collaborative Effort (FAHCE). The EIR details how Valley Water proposes to release water from our reservoirs to balance water supply needs while also providing habitat for steelhead in Stevens Creek and both steelhead and Chinook salmon in the Guadalupe watershed. The document also details how plants, wildlife, fisheries and water supply will be affected under different scenarios for operations and what we can do to enhance the various benefits. • In August 2023, Valley Water reached a five-year milestone in its extensive fisheries monitoring program to collect data on various fish species in our creeks.

ADDRESSING ENCAMPMENTS OF UNSHELTERED PEOPLE GOAL: Humanely assist in the permanent relocation of unsheltered people on Valley Water lands along waterways and at water supply and flood risk reduction facilities in order to address the human health, public safety, operational, and environmental challenges posed by encampments.	
Objective 1:	**Collaborate with agencies and other service providers to address the challenges posed by encampments and their impacts to waterways, water supply, and flood risk reduction facilities, including supporting the provision of outreach, counseling, transitional or affordable housing, or other services by these agencies and service providers.**
Updates:	• In August 2023, Valley Water was awarded a grant from the U.S. Environmental Protection Agency providing approximately $2.2 million to perform encampment cleanups and provide portable toilets on heavily impacted creeks. The grant also provides about $900,000 to address encampment-generated environmental impacts on Coyote Creek. • On August 22, 2023, the Valley Water Board of Directors adopted a framework to address the effects of homelessness along waterways and work toward achieving a "functional

	zero" level of encampments of unsheltered individuals and additional resources to support an enhanced level of service for Valley Water's encampment cleanup operations. • On September 26, 2023, the Valley Water Board of Directors adopted a new Board Ends Policy "E-6: Encampments of Unsheltered People" that provides a vision and framework for addressing the broad impact of unsheltered people living in encampments on Valley Water land. • In September 2023, CA Governor Newsom signed AB 1469 (Kalra) Valley Water Assisting Unsheltered People. The bill amended Valley Water's District Act to allow flexibility to use Valley Water land and the existing ad valorem property tax to assist unsheltered people, including contracting for services or providing low-barrier navigation centers, supportive housing, transitional housing, affordable housing, or other facilities. These facilities would be operated by a city, the County, or a non-profit with the appropriate expertise to provide shelter and services that can improve outcomes for unsheltered people and enable compliance with federal case law requiring a legitimate offer of shelter before relocating unsheltered people living on public lands.
Objective 2:	**Collaborate with the County and municipal partners to secure the safety of unsheltered people living on Valley Water lands along waterways and at water supply and flood risk reduction facilities, as well as secure the safety of residential neighbors and Valley Water staff.**
Updates:	• In August 2023, Valley Water was awarded a grant from the U.S. Environmental Protection Agency providing approximately $2.2 million to perform encampment cleanups and provide portable toilets on heavily impacted creeks. The grant also provides about $900,000 to address encampment-generated environmental impacts on Coyote Creek. • On August 22, 2023, the Valley Water Board of Directors adopted a framework to address the effects of homelessness along waterways and work toward achieving a "functional zero" level of encampments of unsheltered individuals and additional resources to support an enhanced level of service for Valley Water's encampment cleanup operations. • On September 26, 2023, the Valley Water Board of Directors adopted a new Board Ends Policy "E-6: Encampments of Unsheltered People" that provides a vision and framework for addressing the broad impact of unsheltered people living in encampments on Valley Water land. • In September 2023, CA Governor Newsom signed AB 1469 (Kalra) Valley Water Assisting Unsheltered People. The bill amended Valley Water's District Act to allow flexibility to use Valley Water land and the existing ad valorem property tax to assist unsheltered people, including contracting for services or providing low-barrier navigation centers, supportive housing, transitional housing, affordable housing, or other facilities. These facilities would be operated by a city, the County, or a non-profit with the appropriate expertise to provide shelter and services that can improve outcomes for unsheltered people and enable compliance with federal case law requiring a legitimate offer of shelter before relocating unsheltered people living on public lands.

CLIMATE CHANGE GOAL: Mitigate carbon emissions and adapt Valley Water operations to climate change impacts.	
Objective:	**Address future impacts of climate change to Valley Water's mission and operations.**
Updates:	• On September 7, 2023, the Valley Water Board Policy and Planning Committee received an update on Valley Water's Climate Change Action Plan including information on the Greenhouse Gas Reduction Plan and implementation of climate change adaptation actions.

	• In October 2023, Valley Water released a Climate Change Action Plan (CCAP) annual implementation update, the first progress update and summary of actions since the initial adoption of the CCAP by Valley Water's Board of Directors in 2021.

BUSINESS MANAGEMENT **GOAL: Promote effective management of water supply, flood protection, and environmental stewardship through responsive and socially responsible business services.**	
Objective 1:	**Incorporate racial equity, diversity, and inclusion throughout Valley Water as a core value.**
Updates:	• Valley Water's Office of Racial Equity, Diversity and Inclusion (REDI) is continuing to evaluate, prioritize and implement the recommendations from its Diversity, Equity and Inclusion (DEI) Five-Year Strategic Master Plan. • In October 2023, Valley Water was the recipient of the first-ever Environmental Justice Award from the Association of Metropolitan Water Agencies (AMWA), an organization of the largest publicly-owned drinking water systems nationwide. The Environmental Justice Award was created to recognize member utilities that commit to advancing equity and justice in their communities. The award is recognition of the work Valley, Water has done over the years to incorporate environmental justice and equity into its work both internally as an organization and in the greater community. • On October 10, 2023, the Valley Water Board of Directors approved updates to the guidelines for naming/renaming district-owned lands, facilities and amenities. • Valley Water's Board of Directors made the following declarations: September 15-October 15, 2023 as Chicano/Hispanic/Latino Heritage Month, October 2023 as Americans with Disabilities Employment Awareness Month, October 2023 as Polish American Heritage Month, October 2023 as German Heritage Month, October 2023 as Italian Heritage Month, October 2023 as Filipino American History Month, November as National Native American Heritage Month, and November 12-18, 2023 as United Against Hate Week.
Objective 2:	**Maintain appropriate staffing levels and expertise while prioritizing the safety of our staff.**
Updates:	• On September 14, 2023, Valley Water's Next Gen Career Pathways Program presented at the statewide California Environmental Literacy Initiative (CAELI) Green Career Education Innovation Hub meeting in collaboration with Santa Clara County's Office of Education College and Career Pathways. The presentation was designed to spark interest in careers connected to the water industry and highlight Valley Water's efforts to create equitable access to high-growth, living-wage green careers that are essential to building a sustainable future.
Objective 3:	**Provide affordable and cost-effective level of services.**
Updates:	• In September 2023, CA Governor Newsom signed AB 939 (Pellerin) Smart Financing for Valley Water Infrastructure. The bill amends the District Act to add the financial flexibility needed to help Valley Water adapt to climate change by fixing the revenue bond authority and authorizing general obligation bonds. • The Government Finance Officers Association of the United States and Canada (GFOA) has awarded the Certificate of Achievement for Excellence in Financial Reporting to Santa Clara Valley Water District for its annual comprehensive financial report for the fiscal year ended June 30, 2022. The report has been judged by an impartial panel to meet the high standards of the program. The Certificate of Achievement is the highest form of recognition in the area of governmental accounting and financial reporting, and

	its attainment represents a significant accomplishment by a government and its management. • In October 2023, Valley Water hosted a "Meet the Primes" event aimed at connecting small and locally-owned businesses with prime contractors. The event provided a platform for diverse businesses, including small and locally-owned enterprises, to connect with prime contractors on contracting opportunities. The event also provided an opportunity for vendors to learn how to do business with Valley Water, discuss upcoming contracting opportunities, and receive information about the Small Business Enterprise (SBE) Preference and the Project Labor Agreement (PLA). Approximately 25 prime contractors attended hosting their own booths, and over 175 diverse businesses participated in the event. • Valley Water continues its partnership with Sacred Heart Community Service with funding for a Low-Income Residential Water Rate Assistance Program. Hundreds of households have qualified for assistance since the program's launch in late 2021. With submitted applications still being processed, hundreds more will benefit from the initiative in the coming months.

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