5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Santa Clara Valley Water District

April 21, 2017

MEETING NOTICE

WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE

Members of the Water Conservation and Demand Management Committee:
Director Nai Hsueh
Director Linda J. LeZotte, Vice Chair
Director Richard P. Santos, Chair

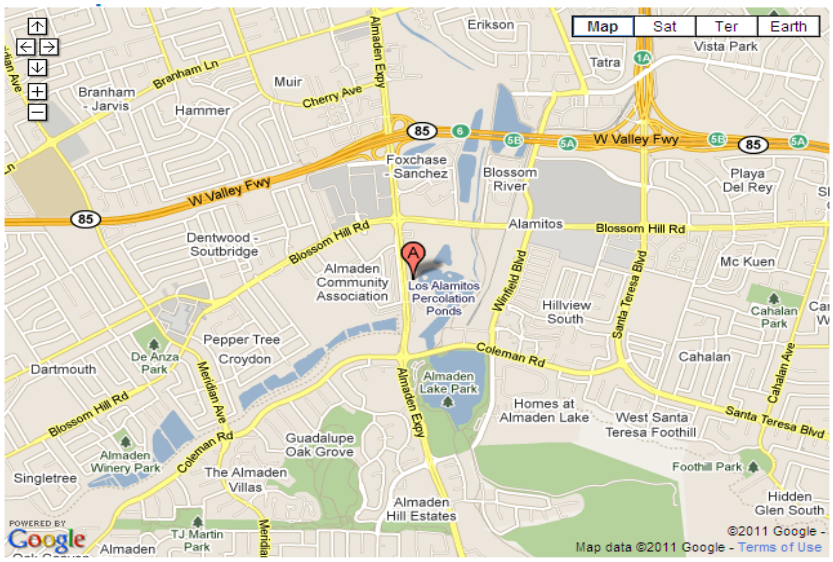
Staff Support of the Water Conservation and Demand Management Committee:
Norma Camacho, Interim Chief Executive Officer
Jim Fiedler, Chief Operating Officer, Water Utility
Stanly Yamamoto, District Counsel
Garth Hall, Deputy Operating Officer, Water Supply Division
Rick Callender, Deputy Administrative Officer, Office of Government Relations
Jerry De La Piedra, Water Supply Planning and Conservation Manager, Water Supply Planning and Conservation Unit
Vanessa De La Piedra, Groundwater Management Manager, Groundwater Monitoring and Analysis Unit

The regular meeting of the Water Conservation and Demand Management Committee is scheduled to be held on **Thursday, April 27, 2017, at 9:00 a.m.** in the Headquarters Building Boardroom, located at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

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

Enclosures

Santa Clara Valley Water District - Headquarters Building, 5700 Almaden Expressway, San Jose, CA 95118



From Oakland:

- Take 880 South to 85 South
- Take 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Morgan Hill/Gilroy:

- Take 101 North to 85 North
- Take 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- Cross Blossom Hill Road
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Sunnyvale:

- Take Highway 87 South to 85 North
- Take Highway 85 North to Almaden Expressway exit
- Turn left on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From San Francisco:

- Take 280 South to Highway 85 South
- Take Highway 85 South to Almaden Expressway exit
- Turn left on Almaden Plaza Way
- Turn right (south) on Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Downtown San Jose:

- Take Highway 87 - Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (first traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

From Walnut Creek, Concord and East Bay areas:

- Take 680 South to 280 North
- Exit Highway 87-Guadalupe Expressway South
- Exit on Santa Teresa Blvd.
- Turn right on Blossom Hill Road
- Turn left at Almaden Expressway
- At Via Monte (third traffic light), make a U-turn
- Proceed north on Almaden Expressway approximately 1,000 feet
- Turn right (east) into the campus entrance

AGENDA
WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE

THURSDAY, APRIL 27, 2017
9:00 a.m. - 11:00 a.m.

Santa Clara Valley Water District
Headquarters Building Boardroom
5700 Almaden Expressway
San Jose, CA 95118

Time Certain
9:00 a.m.

1. Call to Order/Roll Call

2. Time Open for Public Comment on Any Item Not on the Agenda
Comments should be limited to two minutes. If the Committee wishes to discuss a subject raised by the speaker, it can request placement on a future agenda.

3. Approval of Minutes
3.1 Approval of Minutes – March 24, 2017, meeting

4. Discussion/Action Items
4.1 Update on Golf Course Coalition Proposal (Jerry De La Piedra/Ron Zraick)
Recommendation: This is an information only item and no action is required.

4.2 Update on 2017 Water Supply Conditions (Garth Hall)
Recommendation: This is an information only item and no action is required.

4.3 Making Water Conservation a California Way of Life (Garth Hall)
Recommendation: This is an information only item and no action is required.

4.4 Update on the Sustainable Groundwater Management Act (SGMA) (Vanessa De La Piedra)
Recommendation: This is an information only item and no action is required.

4.5 Review of Water Conservation and Demand Management Committee Work Plan, any Outcomes of Board Action or Committee Requests and Schedule the next Committee Meeting (Committee Chair)
Recommendation: Schedule 2017 meetings and review the Committee's work plan and planning calendar to guide the Committee's discussions regarding policy alternatives and implications for Board deliberation.

5. Clerk Review and Clarification of Committee's 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 discussion of Item 4.

6. Adjourn:

REASONABLE EFFORTS TO ACCOMMODATE PERSONS WITH DISABILITIES WISHING TO ATTEND COMMITTEE MEETINGS WILL BE MADE. PLEASE ADVISE THE CLERK OF THE BOARD OFFICE OF ANY SPECIAL NEEDS BY CALLING (408) 630-2277.

Meetings of this committee will be conducted in compliance with all Brown Act requirements. All public records relating to an open session 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 same time that the public records are distributed or made available to the legislative body, at the following location:

Santa Clara Valley Water District, Office of the Clerk of the Board
5700 Almaden Expressway, San Jose, CA 95118

Water Conservation and Demand Management Committee:
Purpose: To support the Board of Directors in achieving its policy to provide a reliable water supply to meet current and future water usage by making policy recommendations related to demand management.

WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE MEETING

DRAFT MINUTES

FRIDAY, MARCH 24, 2017
10:00 AM

(Paragraph numbers coincide with agenda item numbers)

A meeting of the Water Conservation and Demand Management Committee was held on March 24, 2017, in the Headquarters Building Boardroom at the Santa Clara Valley Water District, 5700 Almaden Expressway, San Jose, California.

1. CALL TO ORDER/ROLL CALL

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

Board Members in attendance were: Director Richard P. Santos, Director Linda J. LeZotte, and Director Nai Hsueh.

Staff members in attendance were: Glenna Brambill, Marty Grimes, Garth Hall, Erick Soderlund, Tracy Hemmeter, George Cook, Justin Burks, Vicki Rolls-Elam.

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

There was no one present who wished to speak.

3. APPROVAL OF MINUTES

It was moved by Director Nai Hsueh, seconded by Director Linda LeZotte and unanimously carried, to approve the ~~minutes of the~~ February 23, 2017, Water Conservation and Demand Management Committee meeting minutes, as presented.

4. DISCUSSION/ACTION ITEMS

4.1 UPDATE ON GOLF COURSE COALITION PROPOSAL

Mr. Justin Burks and Mr. Ron Zraick of Cinnabar Hills Gold Club reviewed the materials as outlined in the agenda items.

Directors Nai Hsueh, Linda J. LeZotte and Richard P. Santos spoke on this agenda item.

No action was taken.

4.2 UPDATE ON THE SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

Mr. George Cook and Mr. Erick Soderlund reviewed the materials as outlined in the agenda items.

Directors Nai Hsueh and Linda J. LeZotte spoke to this agenda item.

Mr. Garth Hall was available to answer questions.

Mr. Doug Muirhead of Morgan Hill, Mr. Tim Guster of Great Oaks Water Company, Mr. Andy Gere of San Jose Water Company spoke to this agenda item.

No action was taken.

4.3 PRESENTATION ON CONSERVATION AND DEMAND MANAGEMENT ELEMENTS OF THE DRAFT 2017 WATER MASTER PLAN
Ms. Tracy Hemmeter reviewed the materials as outlined in the agenda items.

No action was taken.

4.4 UPDATE ON 2017 WATER SUPPLY CONDITIONS
Mr. Garth Hall reviewed the materials as outlined in the agenda items.

Directors Nai Hsueh and Richard P. Santos spoke on this agenda item.

No action was taken.

4.5 REVIEW OF WATER CONSERVATION AND DEMAND MANAGEMENT COMMITTEE WORK PLAN, ANY OUTCOMES OF BOARD ACTION OR COMMITTEE REQUESTS AND SCHEDULE THE NEXT COMMITTEE MEETING
Ms. Glenna Brambill reviewed the materials as outlined in the agenda items.

Director Nai Hsueh, will be meeting with Glenna to develop a more comprehensive calendar for the Committee's work plan items.

5. CLERK REVIEW AND CLARIFICATION OF COMMITTEE'S REQUESTS
Ms. Glenna Brambill stated there were no action items for Board consideration.

6. ADJOURNMENT
Chair Santos adjourned at 11:24 a.m. to the next regular meeting on Thursday, April 27, 2017, at 9:00 a.m. in the Santa Clara Valley Water District Headquarters Building Boardroom.

Glenna Brambill
Office of the Clerk of the Board

Approved:

Committee:	Water Conservation and Demand Management
Meeting Date:	04/27/17
Agenda Item No.:	4.1
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	5 Minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on Golf Course Coalition Proposal

RECOMMENDED ACTION:

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

SUMMARY:

This update has no material change since the Committee received an update at its March 24, 2017 meeting.

At the request of the Committee, staff has discussed the draft Golf Course Coalition proposal, titled ""Alternative Means of Compliance for Golf Courses and Sports Fields" with the water retailers at their October 2016 Water Retailers Meeting as well as at November 2016 and March 2017 Water Conservation Subcommittee (Subcommittee) meetings. District staff then worked with the Subcommittee to initiate a small working group to discuss this concept further. The small working group has provided comments to the proposal, which was shared with the full Subcommittee on March 16, 2017.

BACKGROUND:

Golf courses, typically a target of the public during a drought, have each responded in their own way to the ongoing drought. In many cases the response is dependent on their water provider and the restrictions in place, which can vary significantly from one jurisdiction to the next. To address this imbalance, as well as other issues, the majority of golf courses in Santa Clara County have organized to form a Golf Course Coalition (Coalition). The Coalition has been tasked with developing and promoting uniform requirements throughout the county for large landscapes that utilize potable water. This would include consistent water use reduction targets, reporting requirements, and potential consequences for non-compliance (e.g. fines). The specifics, including the definition of "large landscape", are still to be determined.

ATTACHMENT(S):

None

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Committee:	Water Conservation and Demand Management
Meeting Date:	04/27/17
Agenda Item No.:	4.2
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	10 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on 2017 Water Supply Conditions

RECOMMENDED ACTION:

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

SUMMARY:

Current Hydrologic and Groundwater Conditions

The 2016/2017 Water Year, beginning October 2016, is much improved compared to the past five years. Northern California and Santa Clara County precipitation and reservoir storage levels are above average for this time of year. Locally, conditions are also favorable, after a quick transition from the five-year drought. Statewide conditions are significantly improved, as indicated by the Governor declaring the drought state of emergency over for most the state.

- Water use reductions achieved by retailers and the community, and increased groundwater recharge in 2016, have resulted in significantly improved groundwater storage conditions. End-of-year groundwater storage in 2016 was 307,000 Acre Feet (AF), which is the 'Normal' Water Shortage Contingency Plan stage. This was a great improvement from end-of-year 2015 storage, which was in the 'Severe' stage.

- As of April 1, 2017, local (San Jose) rainfall for the 2017 water year, which began October 15, 2016, is 15.55 inches, or 123 percent of average to date. Local reservoir storage is 125 percent of the 20-year average for this time of year. April 1, 2017, groundwater elevations in three key index wells continue to increase with recent storms, and are above or near pre-drought levels.

- Local and imported supplies were less constrained in 2016 than in the past few years, and the District took advantage by increasing recharge operations compared to previous years. Managed groundwater recharge in 2016 in the Santa Clara Plain was nearly two-and-a-half times the five-year average, and groundwater storage improved compared to 2015. In 2017, managed groundwater recharge operations will be reduced due to facility maintenance needs, including repairing damage from the winter storms. However, even with reduced recharge operations, predicted end-of-year 2017 storage county-wide will be within Stage 1 (Normal) of the Water Shortage Contingency Plan (308,000 AF).

- The District is also planning to bank as much as 60,000 AF in to Semitropic, if the bank's put capacity allows. Current storage in Semitropic is 198,000 AF, or 57 percent of capacity. The maximum capacity is 350,000 AF, and the five-year average is 258,000 AF.

- Current State Water Project (SWP) allocations are 85 percent as of April 14, 2017. The SWP is dealing with operational issues related to repairs at Oroville Dam and Clifton Court intakes, which result in uncertainties in delivery projections.

- The U.S. Bureau of Reclamation announced on April 11, 2017 that Central Valley Project (CVP) allocations are 100 percent for both South of Delta M&I and Agricultural water service contractors. In accordance with our Reallocation Agreement, the District's total allocation will be 152,500 AF.

- San Luis Reservoir storage is projected to drop less extensively than in recent years, reaching a low of around 800,000 AF by the end of August 2017, and suggesting the reservoir will refill completely in early 2018. The total capacity of the reservoir is 2.04 million AF.

- Due to the improved water supply conditions, on April 7, 2017, the Governor issued Executive Order B-40-17 (Attachment 2) declaring the drought state of emergency over for most the state. The Executive Order, which includes ongoing reporting requirements, requires the State Board to maintain the existing Emergency Regulation's (ER) water waste prohibitions as a bridge until permanent ones can be put in place. However, it also requires the State Board to rescind the portions of the existing ER that require a water supply stress test or mandatory conservation standard. The Governor's Executive Order is transitioning the state from drought response to the long-term framework "Making Water Conservation a California Way of Life."

To better understand the community's awareness of the drought, including their willingness to pay to minimize future water use reductions, the District worked with a consultant to develop a phone survey. The results of the survey, which was conducted in late March 2017, are included in Attachment 3. Key findings include:

- In spite of the wet winter and potential end to the drought, voters in Santa Clara County still see the need to prepare for the future and invest in a more reliable water supply.

- Respondents did not recall cutting back their water use during the drought as a having been much of a challenge.

- A majority of the respondents are open to a small rate increase of $5-10 per month, but many oppose a larger $20-30 per month increase.

- Framing the investment as something that would ensure a more reliable water supply is sufficient – adding information on the corresponding emergency drought use reductions could introduce confusion.

- Specific investments in recycled water for irrigation and industrial uses, storm water capture, and updating aging infrastructure generated the most enthusiasm.

BACKGROUND:

On January 24, 2017 staff provided the Board an update on current water supply conditions, including end-of-year 2016 groundwater storage and several scenarios for 2017. The Board directed staff to return on January 31, 2017 with a resolution that included a call for a 20 percent reduction in water use, that continues the 3 day per week watering schedule, that references the state's water waste prohibitions, and that removes language recommending the cities, water retailers, and the county implement mandatory measures to reach the target. Staff continues to monitor local and state-wide water supply conditions and plans to return to the Board in May 2017 with an update.

ATTACHMENT(S):

Attachment 1: PowerPoint
Attachment 2: Governor's Executive Order B-40-17
Attachment 3: Survey Report

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Update on 2017 Water Supply Outlook

Water Conservation and Demand Management Committee

April 27, 2017

Santa Clara Valley Water District

Overview

Water Supply and Outlook

- 2017 Retail Water Use and Savings
- Water Supply Conditions
  - Current Hydrologic and Reservoir Conditions
  - 2017 Outlook
  - End of Emergency Drought Conditions

From Drought Emergency, looking forward

- Water Conservation is a Way of Life
  - State Board Draft Framework
  - Water Conservation Targets and Programs
- Next Steps

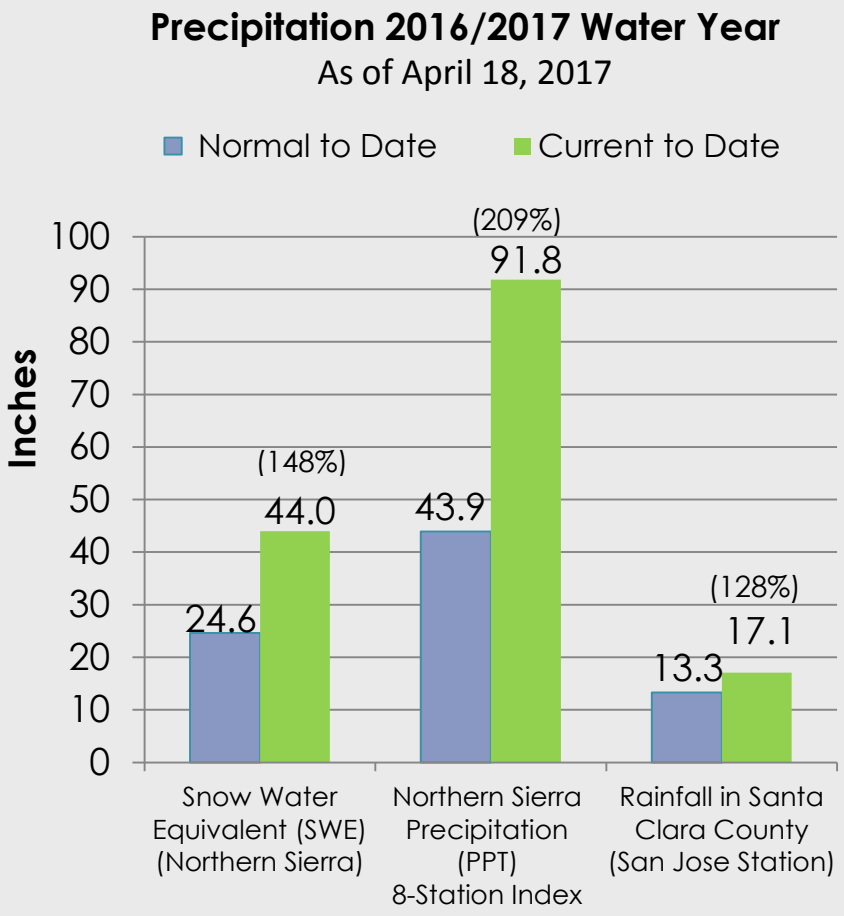
Water Savings by Major Retailers

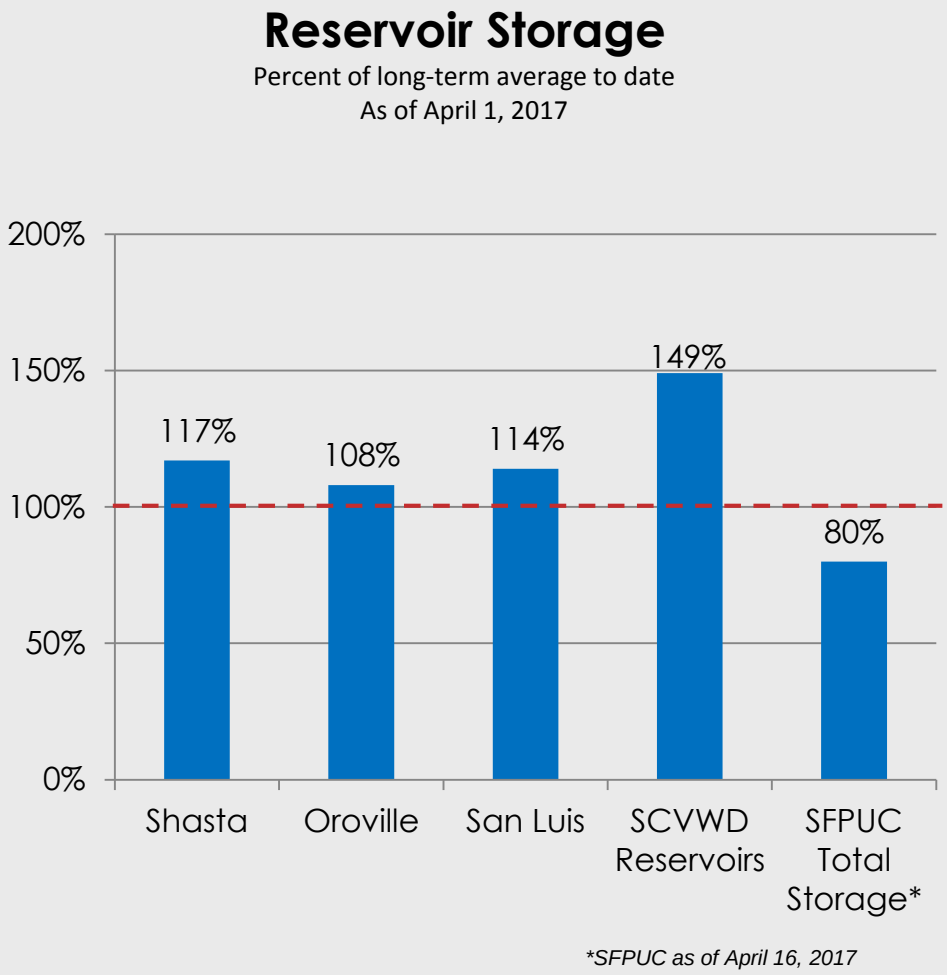
Water Retailer	2014 (Cumulative Feb to Dec)	2015	2016	2017 (Cumulative Jan to March)
San Jose Water Co.	13%	28%	29%	23%
Santa Clara (City)	10%	18%	21%	19%
Sunnyvale	14%	26%	24%	18%
San Jose Municipal	13%	26%	27%	24%
California Water Service	16%	33%	32%	40%
Palo Alto	16%	29%	27%	33%
Mountain View	16%	28%	29%	27%
Great Oaks	16%	29%	29%	23%
Milpitas*	11%	18%	19%	Not Available
Gilroy	14%	26%	25%	18%
Morgan Hill*	19%	33%	30%	Not Available
Purissima Hills Water	16%	26%	31%	52%
Stanford*	7%	28%	35%	Not Available
Total	13%	27%	28%	24%

*Data through February. March data not available as of April 19, 2017

Hydrologic and Reservoir Conditions

HYDROLOGIC CONDITIONS ARE ABOVE AVERAGE





SFPUC as of April 16, 2017

2017 Outlook

85% - SWP Allocation (85 TAF)

100% - CVP Allocation (152.5 TAF)

Up to 74% - Semitropic Storage (put up to 60 TAF)

308 TAF - End of Year Groundwater Storage

Sierra snowpack (Photo SFGATE/NASA)

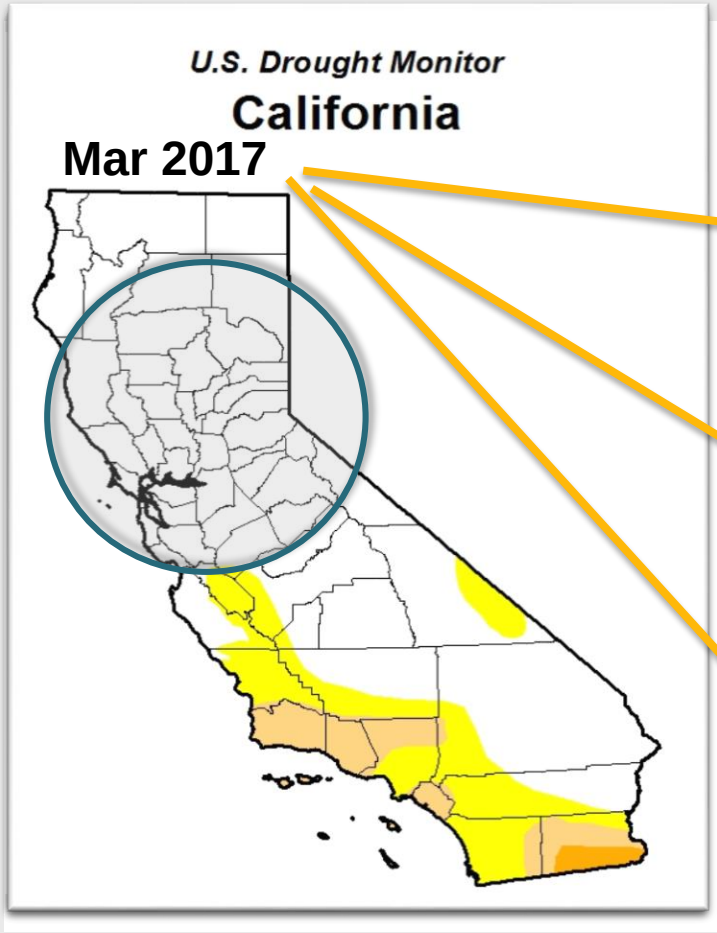
Lake Oroville (Photo: Justin Sullivan/Getty Images)

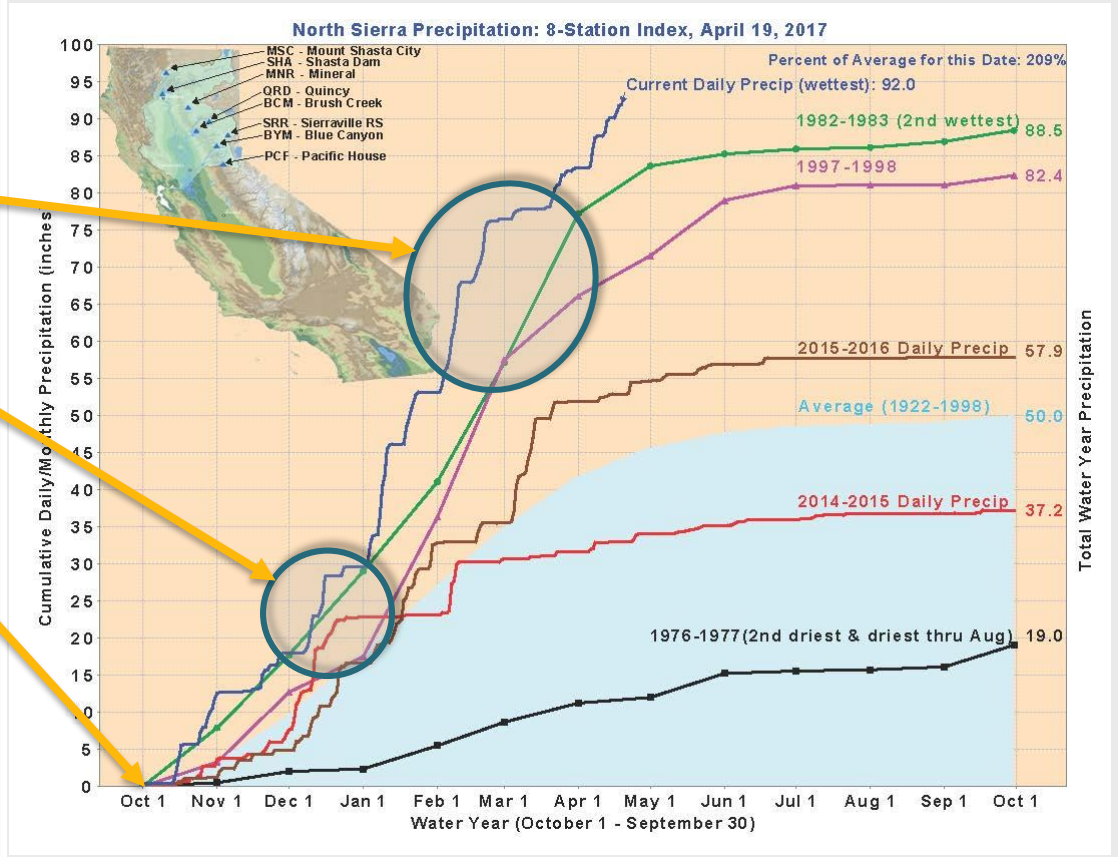
Water Shortage Contingency Plan Stages

Normal (Stage 1) *No water use reductions*	Above 300,000 AF
Projected 2017 EOY Storage →	
Alert (Stage 2) *0-10% reductions*	250,000 – 300,000 AF
Severe (Stage 3) *10% -20% reductions*	200,000 – 250,000 AF
Critical (Stage 4) *20% -40% reductions*	150,000 – 200,000 AF
Emergency (Stage 5) *40% -50% reductions*	Below 150,000 AF

End of Year (EOY) Groundwater Storage

End of Drought Emergency





Governor's Executive Order

Terminate Drought State of Emergency (except some counties)

Rescinds Emergency Proclamation and Executive Orders

Keeps provisions in EO B-37-16, such as: monthly reporting and water waste prohibitions

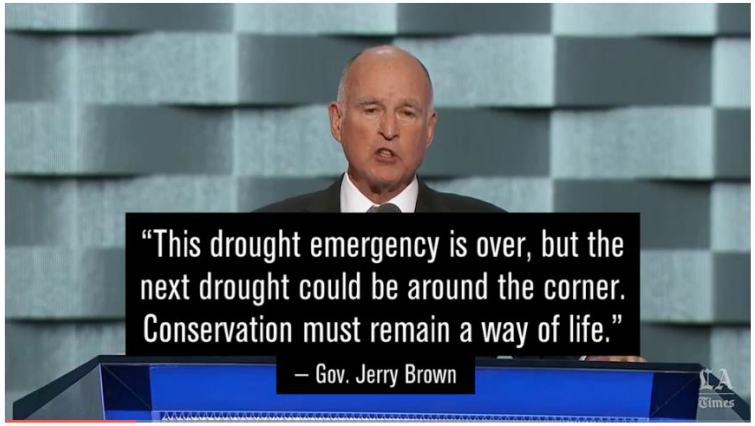
Rescinds mandatory conservation and stress tests

Governor Declares End of Emergency Drought April 2017

OROVILLE, CA – AUGUST 19, 2014

OROVILLE, CA – APRIL 11, 2017

(Photo: Justin Sullivan/Getty Images)



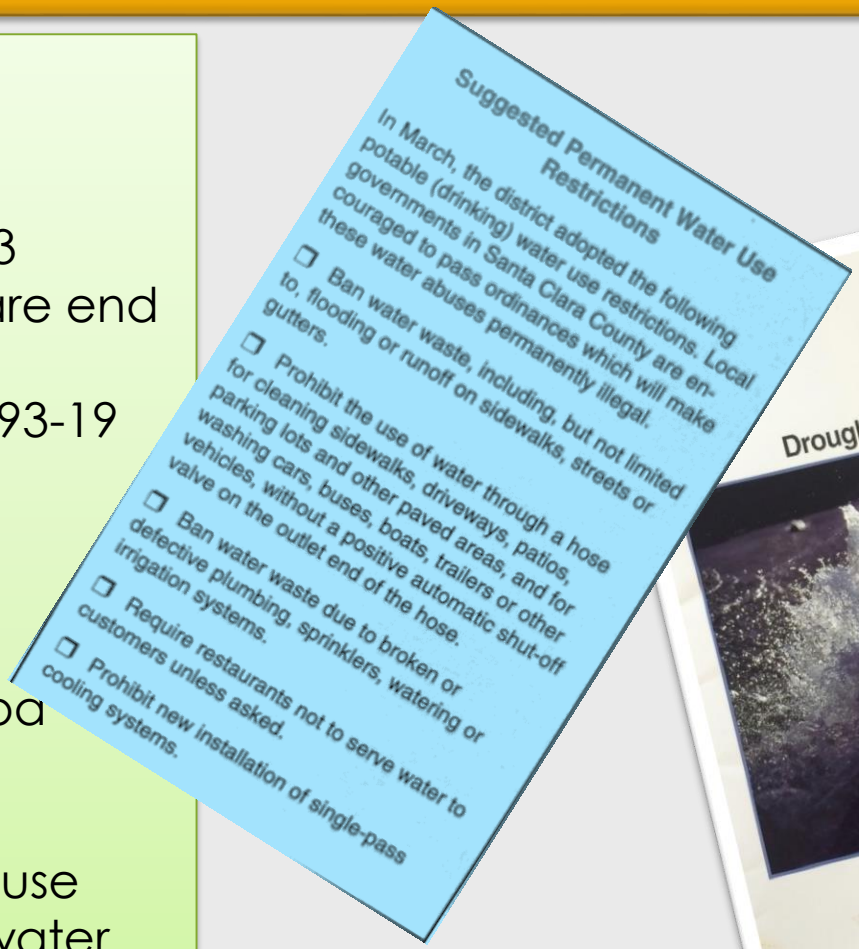
(April 7, 2017; LA Times)

End of 1987-1992 Drought Emergency

History Repeated. Move to Water Wise Practices

1993

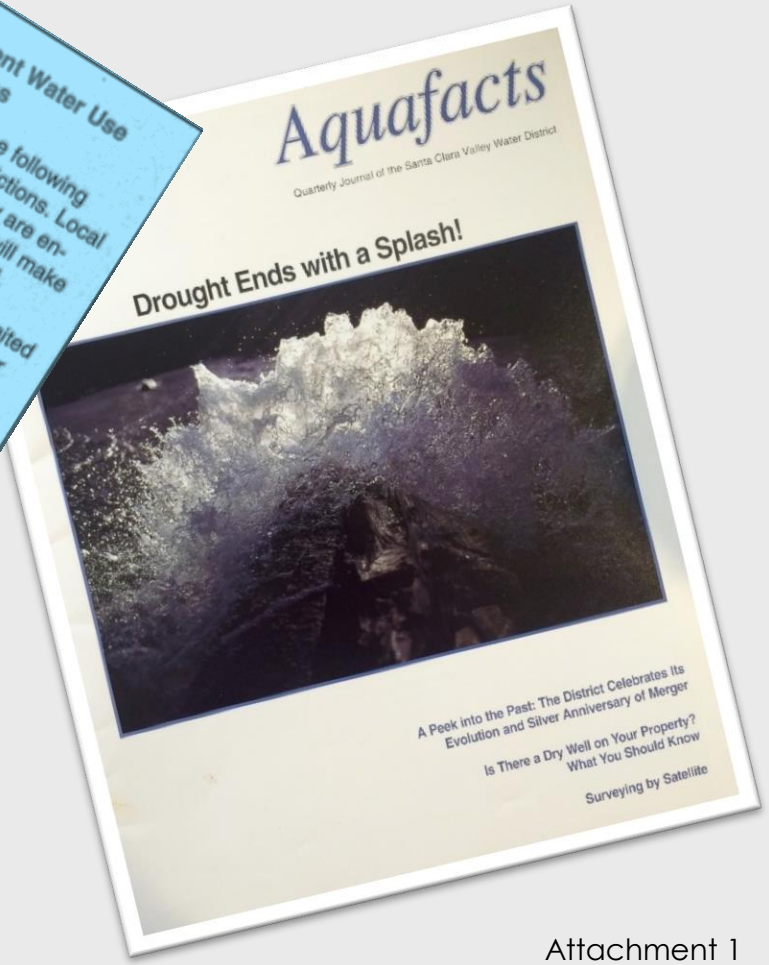
- Significant rains Dec/Jan/Feb 1993
- March 1993 declare end of drought
- Adopt Resolution 93-19
  - Water supply availability
  - Community responded
  - Continued good practices and programs
  - Efficient water use
  - Recommend water waste prohibition



Suggested Permanent Water Use Restrictions

In March, the district adopted the following potable (drinking) water use restrictions. Local governments in Santa Clara County are encouraged to pass ordinances which will make these water abuses permanently illegal.

- ❒ Ban water waste, including, but not limited to, flooding or runoff on sidewalks, streets or gutters.
- ❒ Prohibit the use of water through a hose for cleaning sidewalks, driveways, patios, parking lots and other paved areas, and for washing cars, buses, boats, trailers or other vehicles, without a positive automatic shut-off valve on the outlet end of the hose.
- ❒ Ban water waste due to broken or defective plumbing, sprinklers, watering or irrigation systems.
- ❒ Require restaurants not to serve water to customers unless asked.
- ❒ Prohibit new installation of single-pass cooling systems.



Aquafacts

Quarterly Journal of the Santa Clara Valley Water District

Drought Ends with a Splash!

A Peek into the Past: The District Celebrates its Evolution and Silver Anniversary of Merger

Is There a Dry Well on Your Property? What You Should Know

Surveying by Satellite

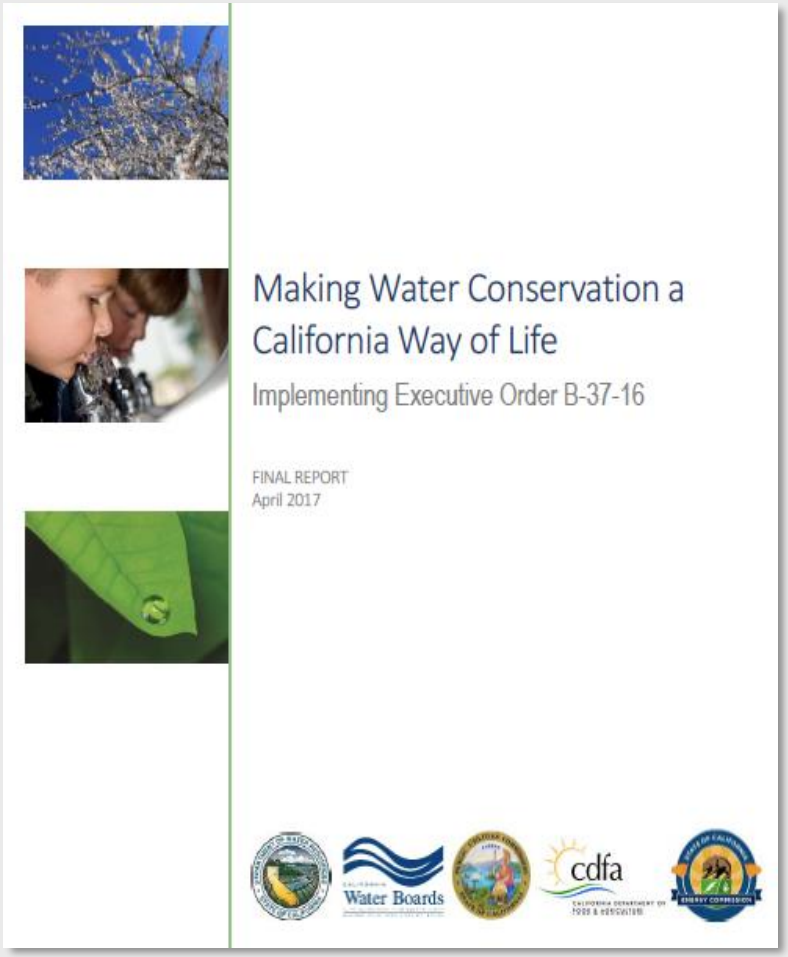
From Drought Emergency, looking forward

State Transition to Conservation as a Way of Life

Governor Executive Order

State Board **transitions away from monthly and annual percent reductions**

Move towards water use efficiency and water budgeting targets after 2020- performance based targets will be in place.

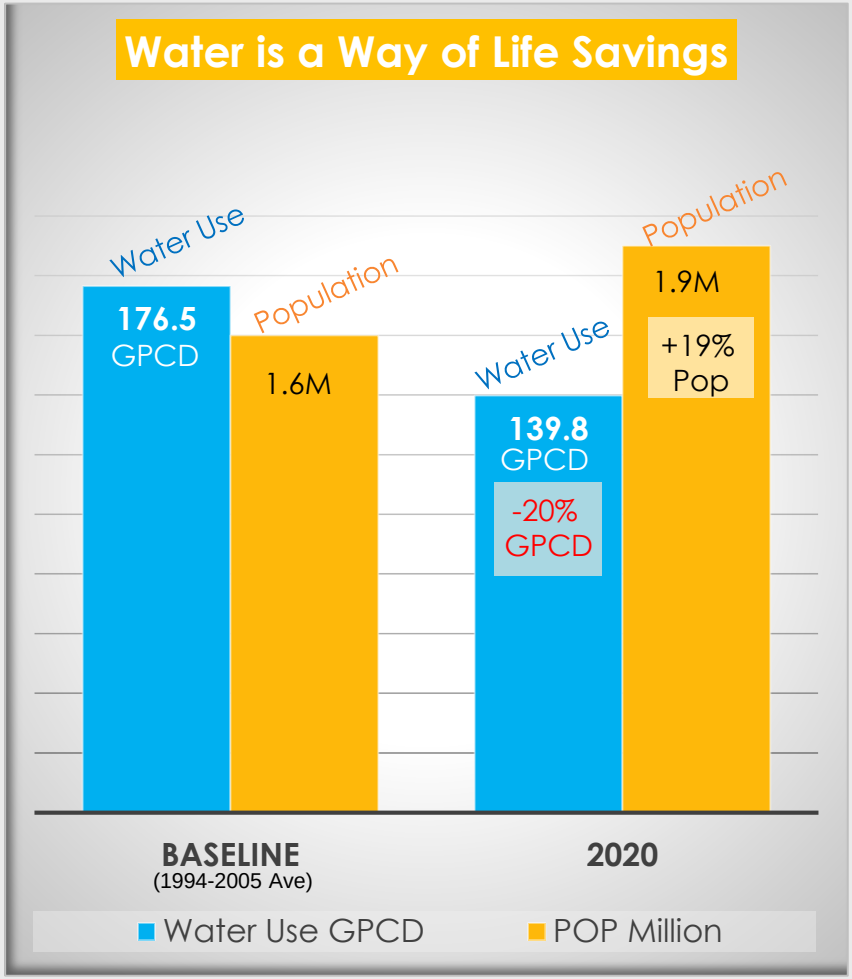


Water Conservation a Way of Life Targets

100,000 AF savings by 2030

20% - GPCD reduction by 2020

New Methodology by 2020 (State Framework)



Water Conservation is a Way of Life

Includes:

- Water wise practices
- Water conservation programs
- Messaging to encourage conservation as a way of life
- Water waste restrictions
- Potentially a day per week watering schedule
- Water waste reporting and inspector programs

Next Steps

Provide Board Update on May 23, 2017

District Programs and Strategies:

- Continue Water Wise Practices
- Focus On Programs and Messaging to Encourage Conservation as a Way of Life
- Continue Permanent Use Restrictions
- Continue Water Waste Reporting

Possible Future District Considerations:

- Adopt a ‘Water Conservation is a Way of Life’ Resolution
- Be Engaged in the State’s Development of New Conservation Standards
- Recommend Additional Ongoing Water Use Restrictions (e.g. days/week watering schedule)

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Executive Department

State of California

EXECUTIVE ORDER B-40-17

WHEREAS California has endured a severe multi-year drought that has threatened the water supplies of communities and residents, devastated agricultural production in many areas, and harmed fish, animals and their environmental habitats; and

WHEREAS Californians responded to the drought by conserving water at unprecedented levels, reducing water use in communities by more than 22% between June 2015 and January 2017; and

WHEREAS the State Water Resources Control Board, the Department of Water Resources, the Department of Fish and Wildlife, the Office of Emergency Services, and many other state agencies worked cooperatively to manage and mitigate the effects of the drought on our communities, businesses, and the environment; and

WHEREAS the State provided 66,344,584 gallons of water to fill water tanks for communities suffering through drought-related water shortages, outages, or contamination, and provided emergency assistance to drill wells and connect communities to more robust water systems; and

WHEREAS the State took a number of important actions to preserve and protect fish and wildlife resources, including stream and species population monitoring, fish rescues and relocations, infrastructure improvements at trout and salmon hatcheries, and infrastructure to provide critical habitat for waterfowl and terrestrial animals; and

WHEREAS the State established a Statewide Water Efficiency and Enhancement Program for agricultural operations that provides financial assistance for the implementation of irrigation systems that save water; and

WHEREAS water content in California's mountain snowpack is 164 percent of the season average; and

WHEREAS Lake Oroville, the State Water Project's principal reservoir, is 101 percent of average, Lake Shasta, the federal Central Valley Project's largest reservoir, is at 110 percent of average, and the great majority of California's other major reservoirs are above normal storage levels; and

WHEREAS despite winter precipitation, the effects of the drought persist in areas of the Central Valley, including groundwater depletion and subsidence; and

WHEREAS our changing climate requires California to continue to adopt and adhere to permanent changes to use water more wisely and to prepare for more frequent and persistent periods of limited water supply; and

WHEREAS increasing long-term water conservation among Californians, improving water use efficiency within the State's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, in accordance with the authority vested in me by the Constitution and statutes of the State of California, do hereby **TERMINATE THE JANUARY 17, 2014 DROUGHT STATE OF EMERGENCY** for all counties in California except the Counties of Fresno, Kings, Tulare, and Tuolumne.

I FURTHER ORDER THAT:

1. The orders and provisions contained in my April 25, 2014 Emergency Proclamation, as well as Executive Orders B-26-14, B-28-14, B-29-15, and B-36-15 are rescinded.

2. The orders and provisions contained in Executive Order B-37-16, **Making Water Conservation a California Way of Life**, remain in full force and effect except as modified by this Executive Order.

3. As required by the State Emergency Plan and Government Code section 8607(f), the Office of Emergency Services, in coordination with other state agencies, shall produce an after-action report detailing the State's response to the drought and any lessons learned in carrying out that response.

MAINTAINING CONSERVATION AS A WAY OF LIFE

4. The State Water Resources Control Board (Water Board) shall continue development of permanent prohibitions on wasteful water use and requirements for reporting water use by urban water agencies, and to provide a bridge to those permanent requirements, shall maintain the existing emergency regulations until they expire as provided by the Water Code. Permanent restrictions shall prohibit wasteful practices such as:

    - Hosing off sidewalks, driveways and other hardscapes;
    - Washing automobiles with hoses not equipped with a shut-off nozzle;
    - Using non-recirculated water in a fountain or other decorative water feature;
    - Watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and
    - Irrigating ornamental turf on public street medians.

5. The Water Board shall rescind those portions of its existing emergency regulations that require a water supply stress test or mandatory conservation standard for urban water agencies.

6. The Department of Water Resources (Department) shall continue work with the Water Board to develop standards that urban water suppliers will use to set new urban water use efficiency targets as directed by Executive Order B-37-16. Upon enactment of legislation, the Water Board shall adopt urban water use efficiency standards that include indoor use, outdoor use, and leaks as well as performance measures for commercial, industrial, and institutional water use. The Department shall provide technical assistance and urban landscape area data to urban water suppliers for determining efficient outdoor use.

7. The Water Board and the Department shall continue to direct actions to minimize water system leaks that waste large amounts of water. The Water Board, after funding projects to address health and safety, shall use loans from the Drinking Water State Revolving Fund to prioritize local projects that reduce leaks and other water system losses.

8. The Water Board and the Department shall continue to take actions to direct urban and agricultural water suppliers to accelerate their data collection, improve water system management, and prioritize capital projects to reduce water waste. The California Public Utilities Commission is requested to work with investor-owned water utilities to accelerate work to minimize leaks.

9. The Water Board is further directed to work with state agencies and water suppliers to identify mechanisms that would encourage and facilitate the adoption of rate structures and other pricing mechanisms that promote water conservation.

10. All state agencies shall continue response activities that may be needed to manage the lingering drought impacts to people and wildlife. State agencies shall increase efforts at building drought resiliency for the future, including evaluating lessons learned from this current drought, completing efforts to modernize our infrastructure for drought and water supply reliability, and shall take actions to improve monitoring of native fish and wildlife populations using innovative science and technology.

CONTINUED DROUGHT RESPONSE IN FRESNO, KINGS, TULARE, AND TUOLUMNE COUNTIES

11. The Water Board will continue to prioritize new and amended safe drinking water permits that enhance water supply and reliability for community water systems facing water shortages or that expand service connections to include existing residences facing water shortages.

12. The Department and the Water Board will accelerate funding for local water supply enhancement projects and will continue to explore if any existing unspent funds can be repurposed to enable near-term water conservation projects.

13. The Water Board will continue to work with local agencies to identify communities that may run out of drinking water, and will provide technical and financial assistance to help these communities address drinking water

shortages. It will also identify emergency interconnections that exist among the State's public water systems that can help these threatened communities. The Department, the Water Board, the Office of Emergency Services, and the Office of Planning and Research will work with local agencies in implementing solutions to those water shortages.

14. For actions taken in the Counties of Fresno, Kings, Tulare, and Tuolumne pursuant to directives 11–13, the provisions of the Government Code and the Public Contract Code applicable to state contracts, including, but not limited to, advertising and competitive bidding requirements, as well as Division 13 (commencing with section 21000) of the Public Resources Code and regulations adopted pursuant to that Division, are hereby suspended. These suspensions apply to any actions taken by state agencies, and for actions taken by local agencies where the state agency with primary responsibility for implementing the directive concurs that local action is required, as well as for any necessary permits or approvals required to complete these actions.

15. California Disaster Assistance Act Funding is authorized until June 30, 2017 to provide emergency water to individuals and households who are currently enrolled in the emergency water tank program.

16. State departments shall commence all drought remediation projects in Fresno, Kings, Tulare, and Tuolumne Counties within one year of the date of this Executive Order.

This Executive Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 7th day of April 2017.

Edmund G. Brown Jr.

EDMUND G. BROWN JR.
Governor of California

ATTEST:

ALEX PADILLA
Secretary of State




Telephone Survey of Santa Clara County Voters
Re: Water Conservation

Conducted for: Santa Clara Valley Water District

EMC RESEARCH MARKET & OPINION RESEARCH SERVICES

Santa Clara Valley Water District SM

April 2017

Methodology

- Telephone survey of registered voters in Santa Clara County
- Conducted by trained, professional interviewers from March 23 – 28, 2017
- 400 completed interviews
- Margin of error: ± 4.9 percentage points
- Interviews conducted in English, Spanish, Chinese, and Vietnamese

Please note that due to rounding, some percentages may not add up to exactly 100%.

Key Findings

- In spite of the wet winter and potential end to the drought, voters in the Santa Clara Valley Water District still see the need to prepare for the future and invest in a more reliable water supply.
- They do not recall cutting back their water use during the drought as having been much of a challenge.
- A majority are open to a small rate increase of $5-10 per month, but many oppose a larger $20-30 increase.
- Framing the investment as something that would ensure a more reliable water supply is sufficient—adding information on the corresponding use reductions could introduce confusion.
- Specific investments in recycled water for irrigation and industrial uses, storm water capture, and updating aging infrastructure generate the most enthusiasm.

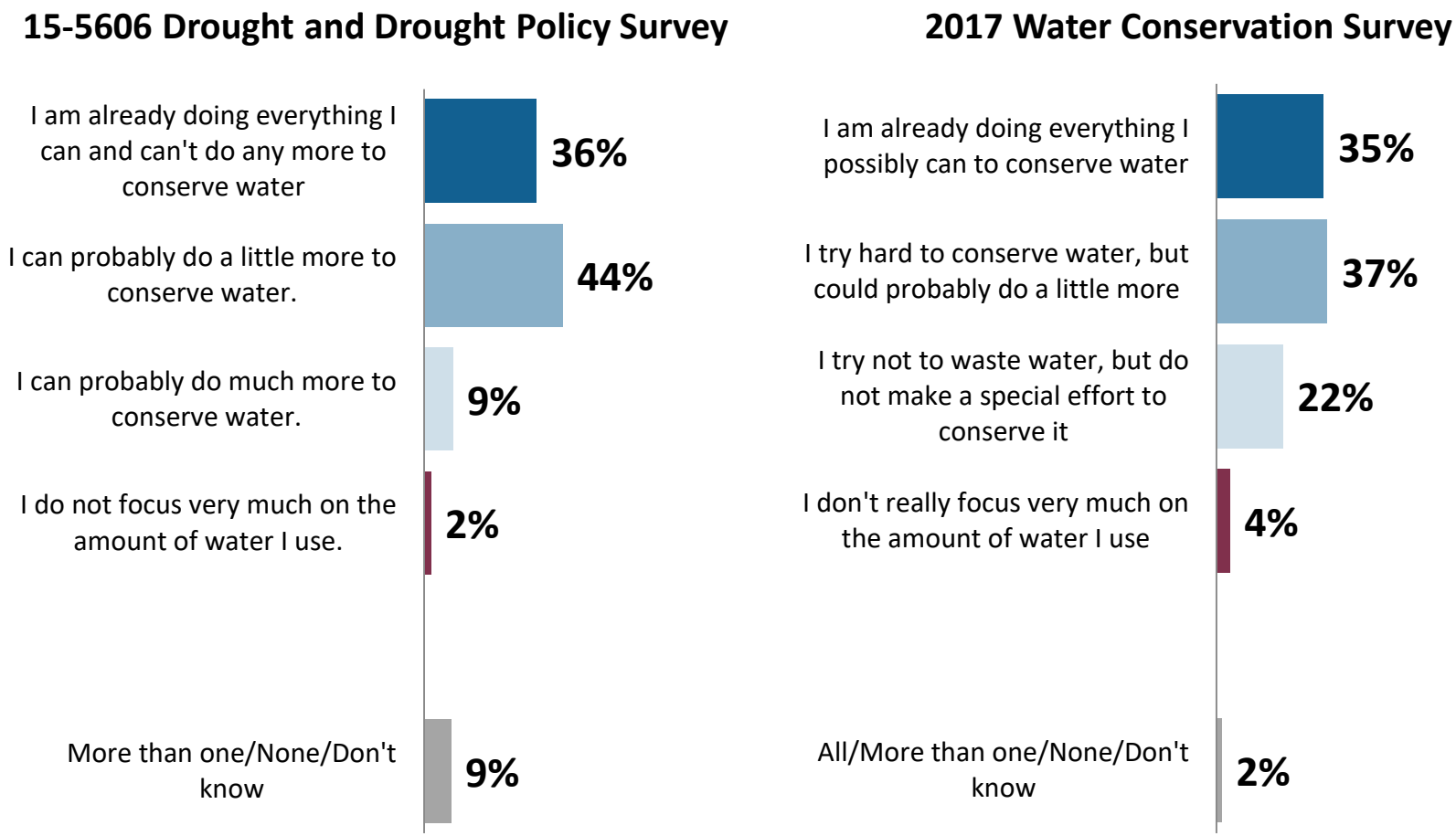
EMC RESEARCH MARKET & OPINION RESEARCH SERVICES

Water Use Reductions

Efforts to Reduce Water Use

Most report they are still making an effort to conserve water, although the majority could do more. The number who say they're doing everything they can to conserve has not changed since a similar question in 2015.

Which of the following statements best describes your current efforts to reduce your water use?

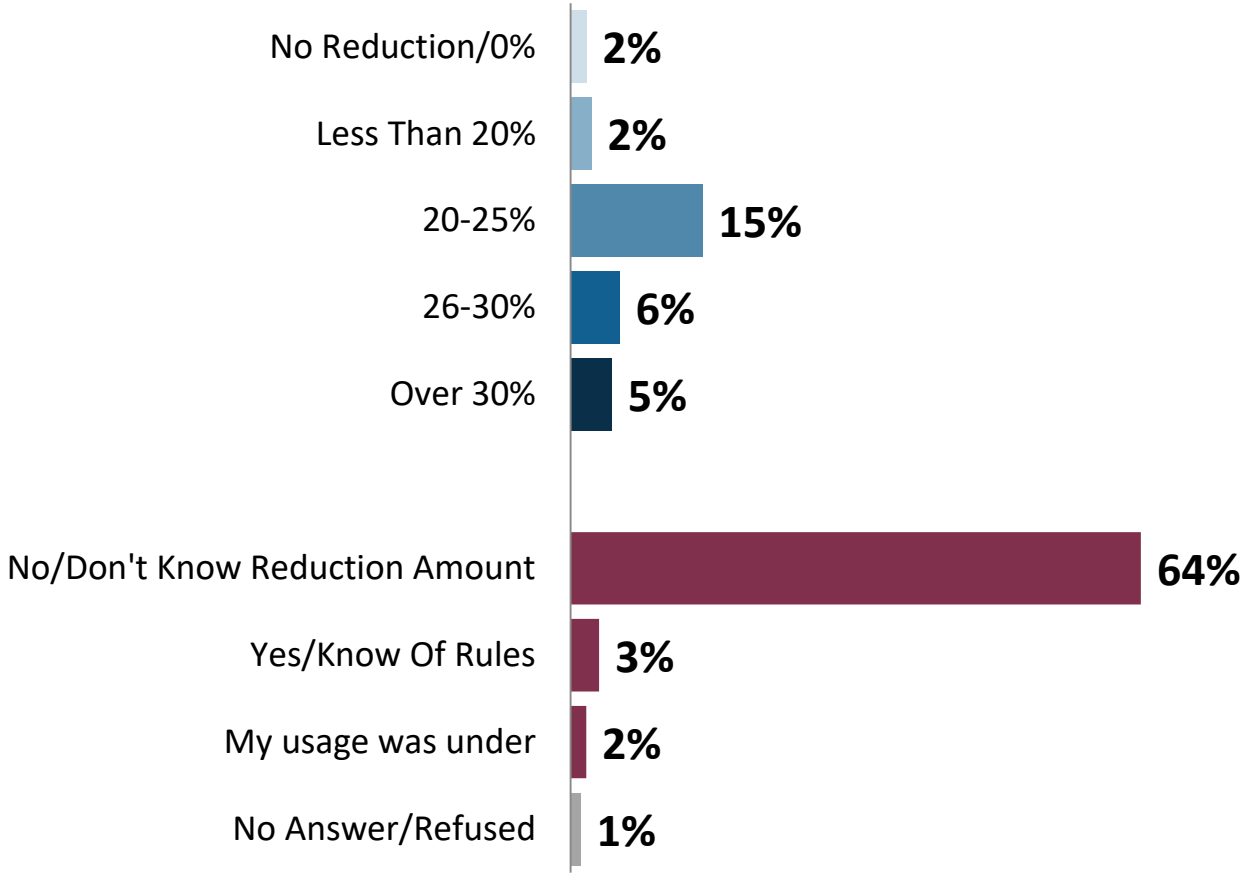


Q3.

Knowledge of Water Use Reduction

Few recall how large of a reduction in water use was called for last summer.

Do you happen to know how much of a reduction in water use your local water agency was calling for last summer during the statewide drought?

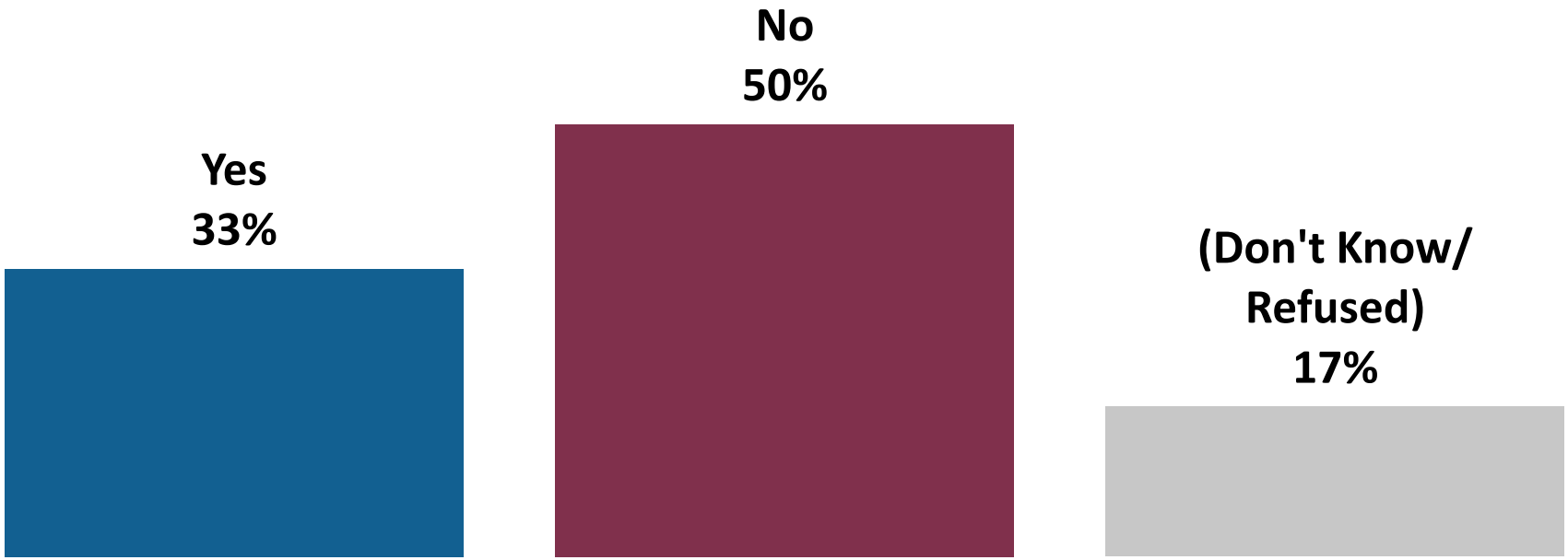


Q4.

Knowledge of Fines

Only a third report that their local agency imposed fines during the drought.

As far as you know, did your local water agency impose any fines or surcharges for using too much water during the statewide drought?

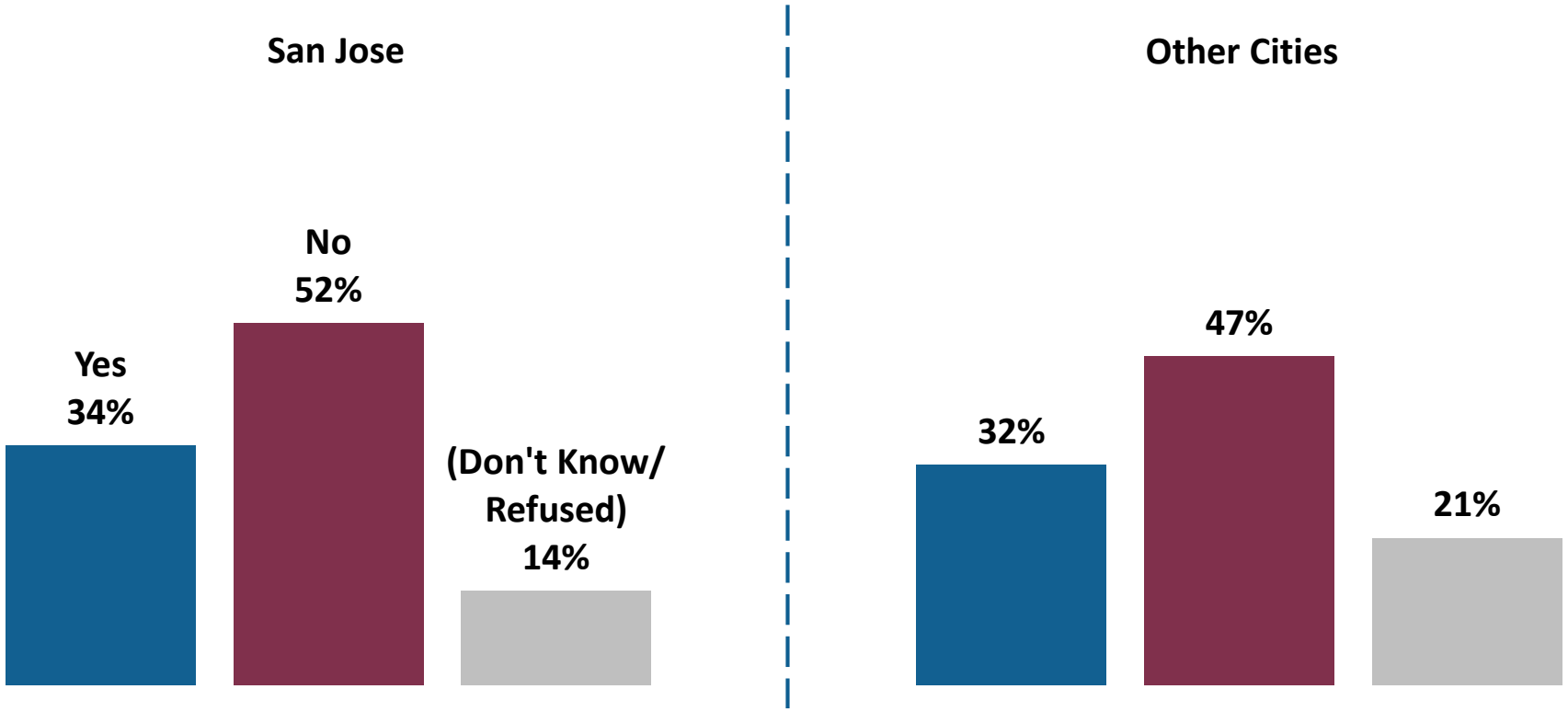


Q5.

Knowledge of Fines by City

Recollection of fines or surcharges is similar in San Jose and other cities.

As far as you know, did your local water agency impose any fines or surcharges for using too much water during the statewide drought?

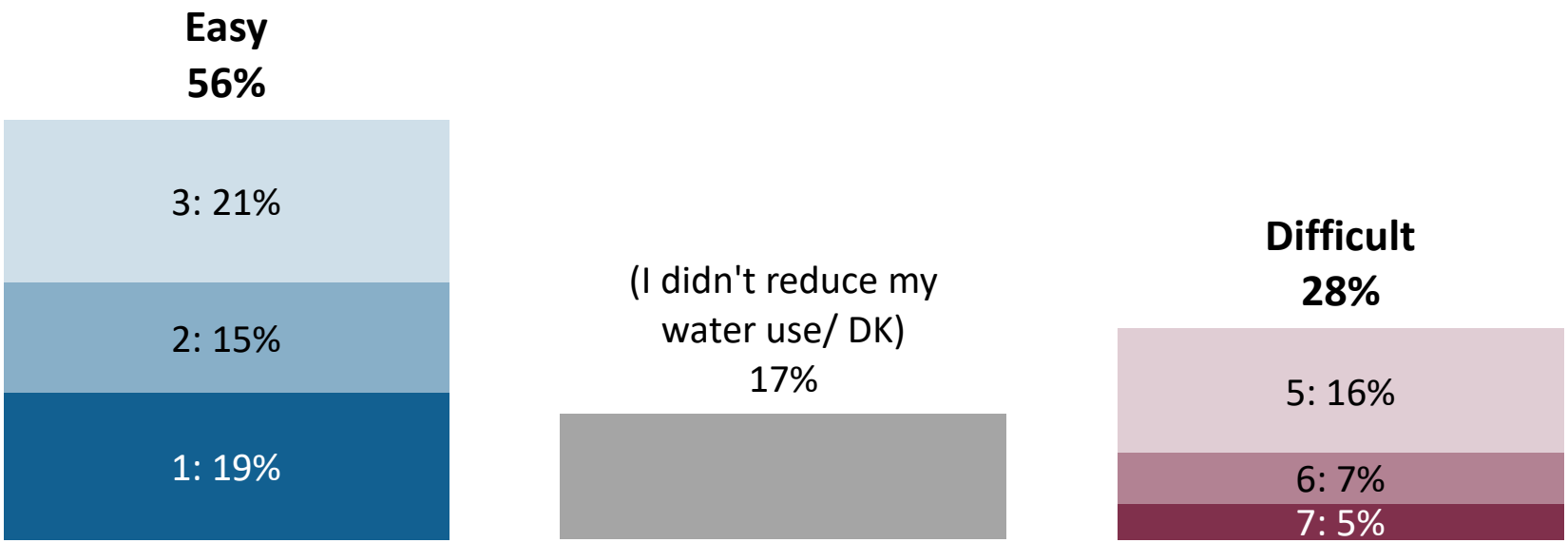


Q5.

Reducing Water Use During the Drought

A majority felt that reducing their water use during the drought was relatively easy.

Thinking about a scale where 1 is very easy and 7 is very difficult, how easy or difficult was it for you to reduce your water use during the drought?



Q6.

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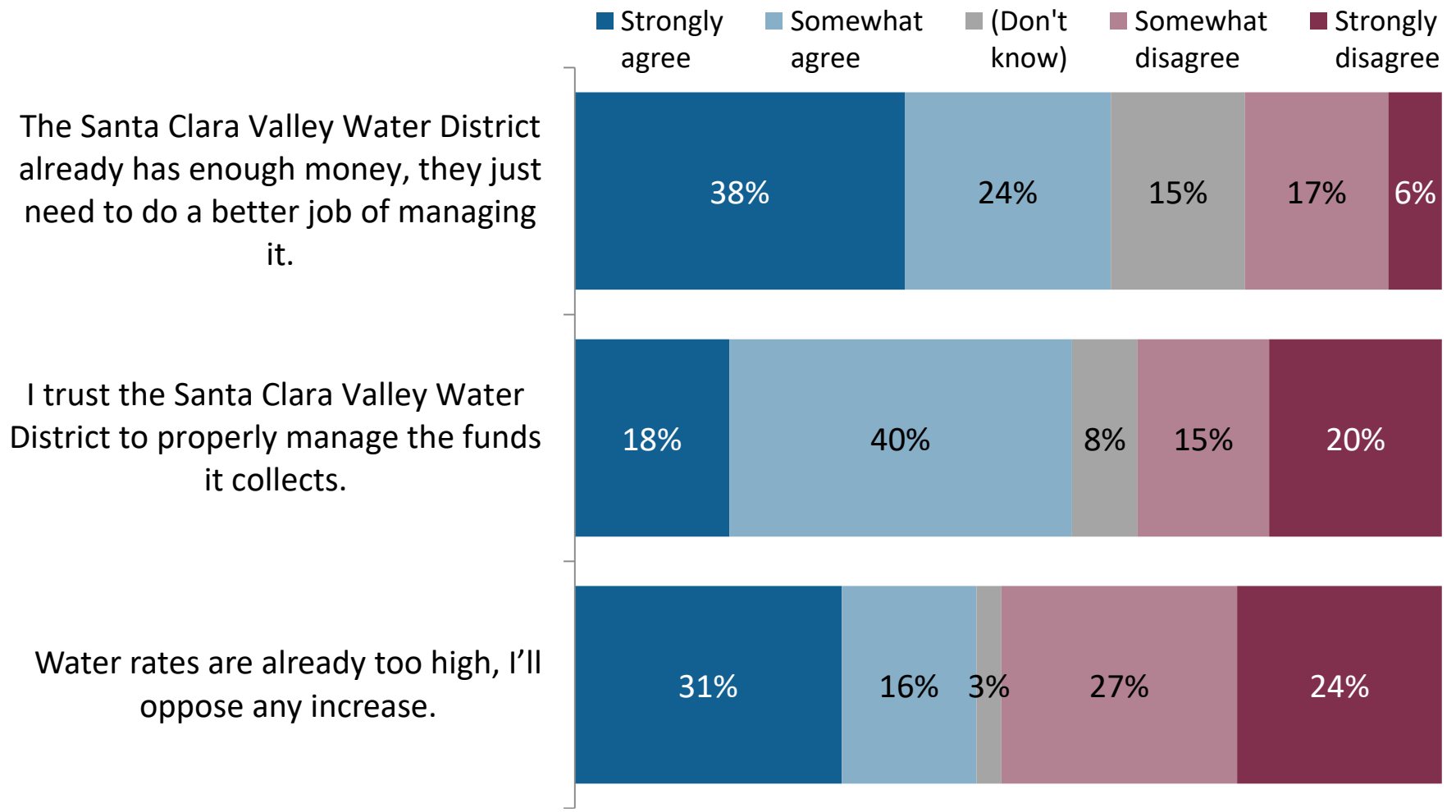
Support for Increased Water Rates

Water Attitudes

While there is widespread agreement that SCVWD already has enough money, most voters also trust the District to spend funds properly and less than a third are strongly opposed to rate increases.

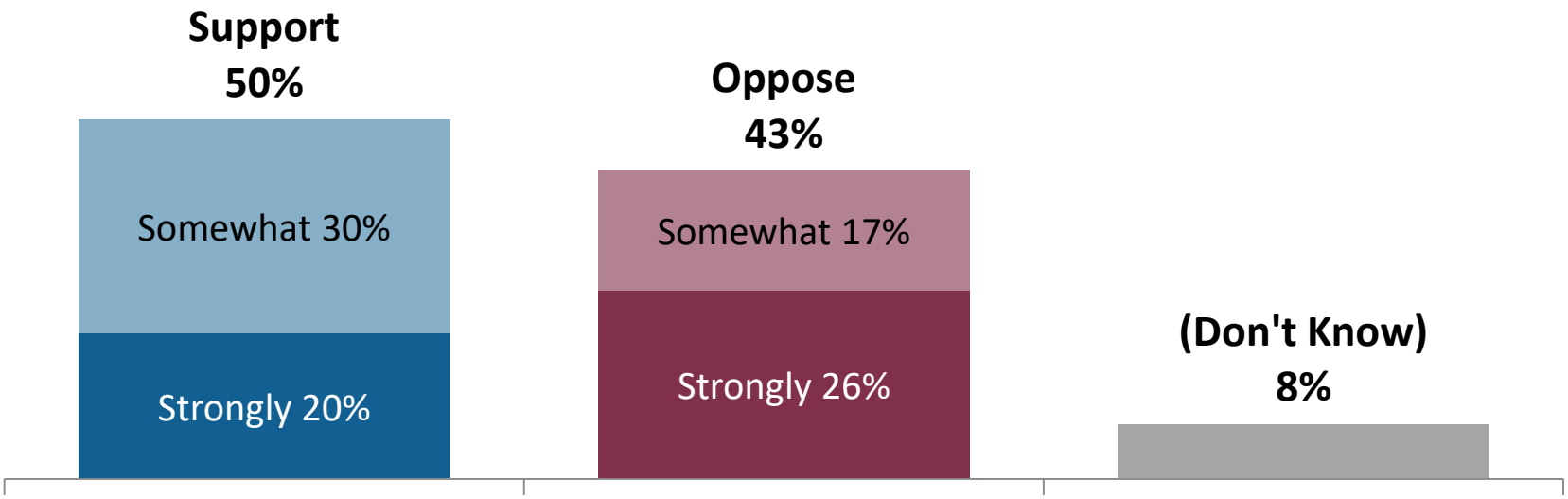


Q12-14. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Initial Support for Increase

Before hearing any details, half at least somewhat support increasing water rates to ensure a more reliable supply of water.

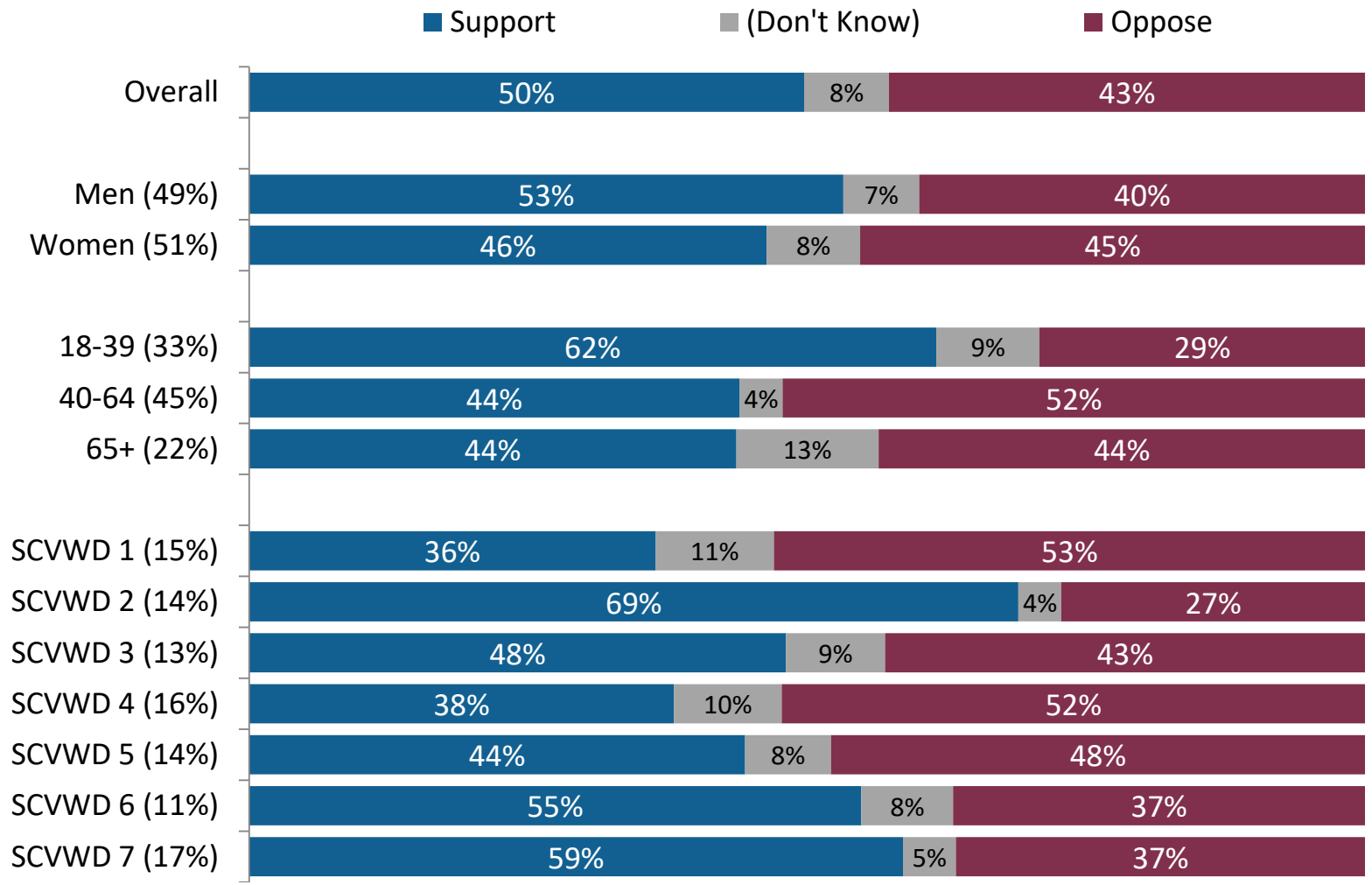
In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?



Q7.

Initial Support by Subgroup

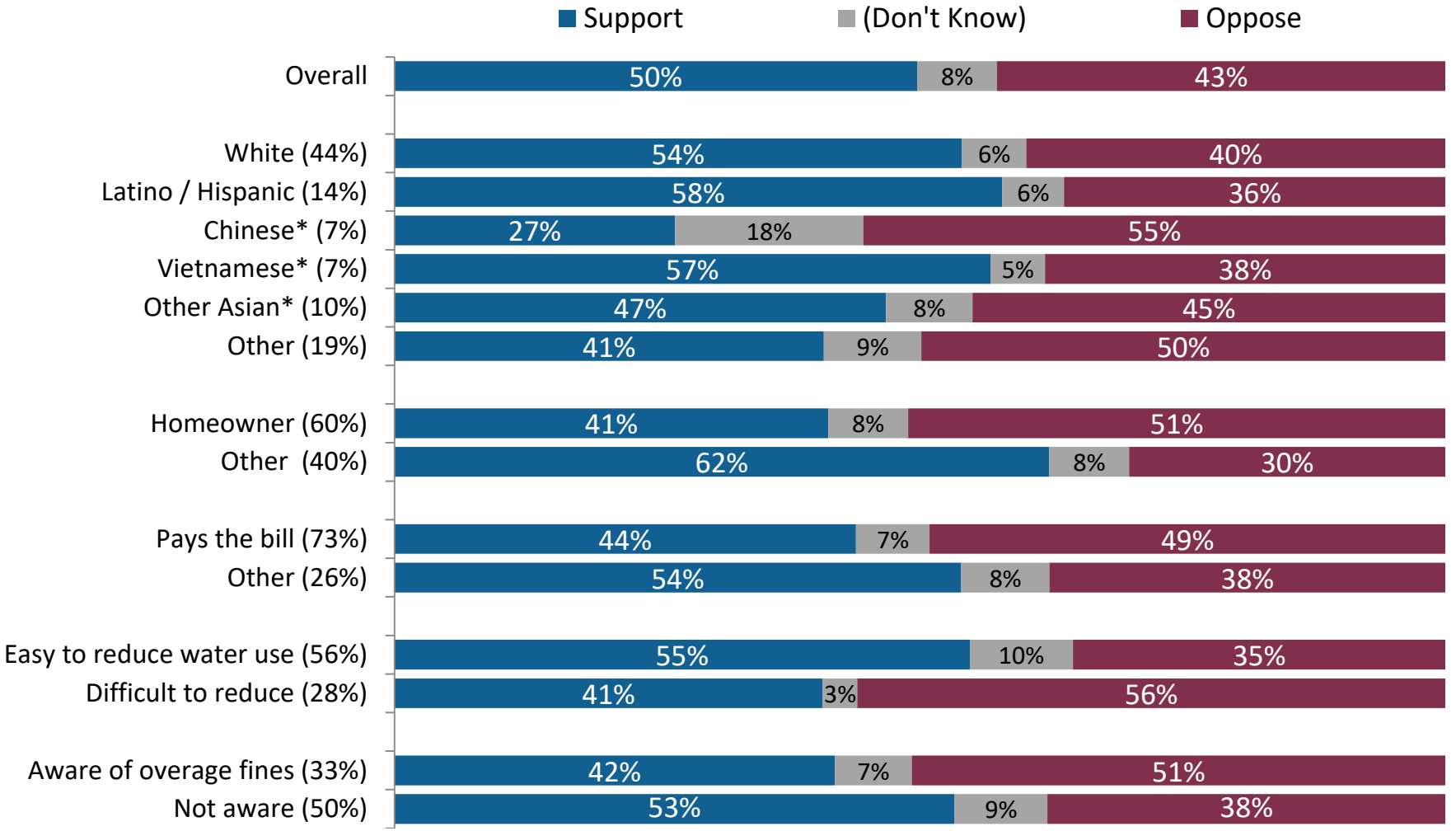
Younger voters are likely to support increased rates to ensure a more reliable supply of water. Support varies considerably by geography.



Q7. In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Initial Support by Subgroup

Homeowners and water bill-payers are more likely to oppose modest rate increases, as are those wo found it harder to reduce their water use during the drought.



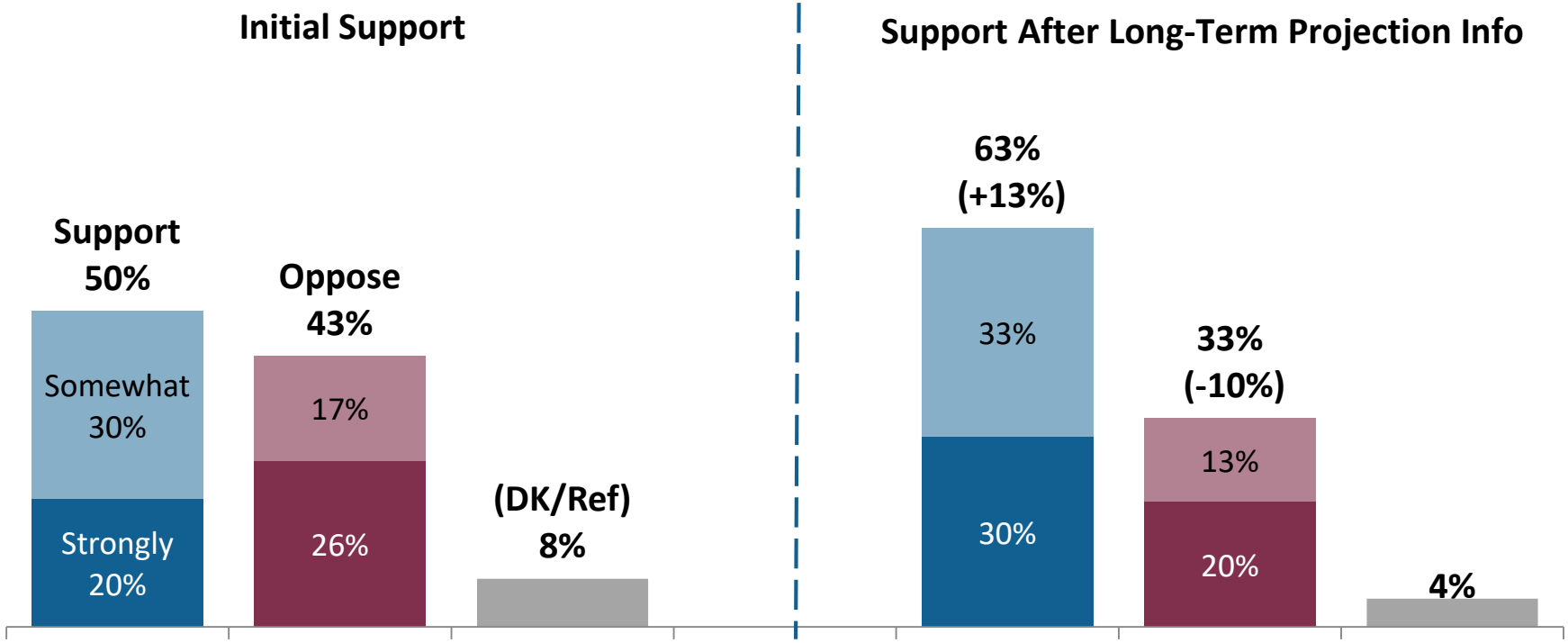
**use caution when generalizing the results among these groups due to small sample sizes*

Q7. In general, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Support After Long-Term Projection Information

Support increases to well over a majority once voters hear more information about the need for investments in water supply reliability.

Despite the recent rain, our local water suppliers are continuing to evaluate long-term water supply needs for our area given future challenges such as droughts, climate change, and population growth. Projections show that in future drought years we may have to cut back water use by up to 30%. To prepare for water shortages during drought years, local water agencies are planning to invest in projects that would ensure a more reliable water supply like expanding reservoirs, expanding the use of recycled water and increasing storm water reuse. These investments would increase water rates for local residents, but would mean that customers would not have to make such significant cuts in water use during drought years.

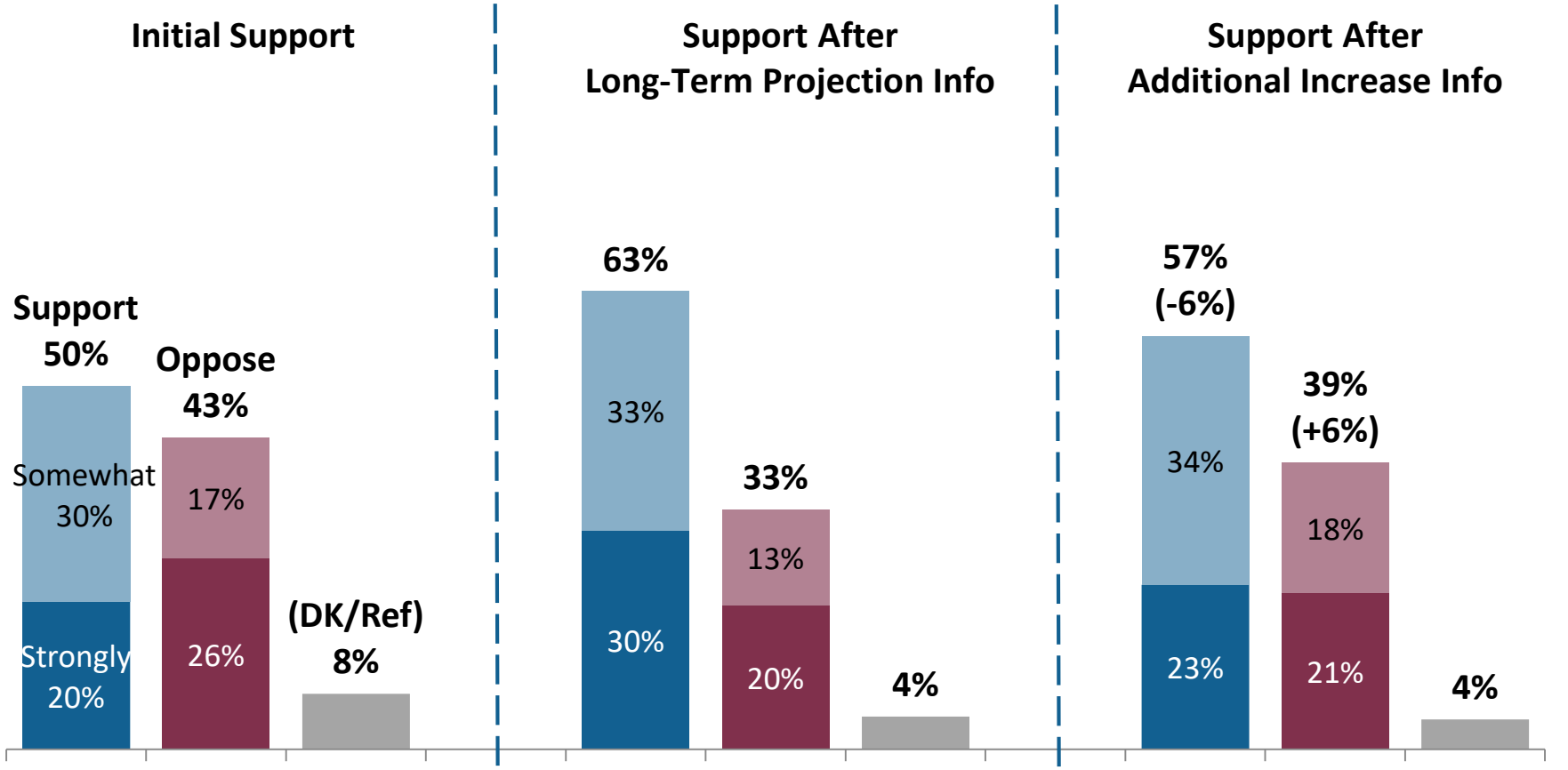


Q8. Given what you've heard, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

Support After Additional Increase Information

Support decreases slightly after voters learn that these increases would come on top of other increases that are already planned, but a majority remains supportive.

Rate increases to further improve water supply reliability would be in addition to already planned increases, primarily for maintaining and improving existing infrastructure.



Q9. Given what you've heard, would you say you support or oppose modest increases in water rates to ensure a more reliable supply of water for our future?

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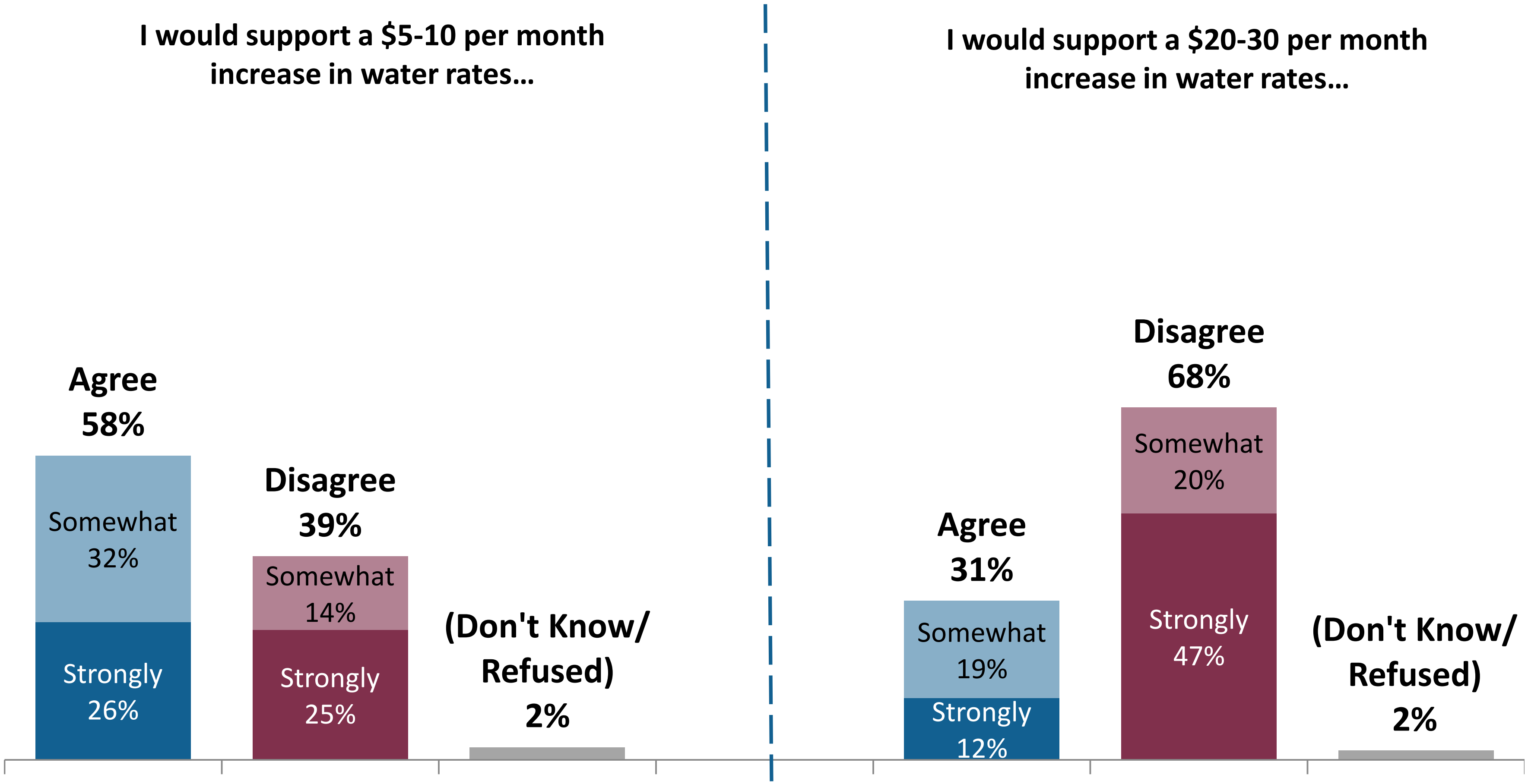
Attitudes Toward Specific Increases

Attitudes Towards Water Rates Increase

A majority would support a $5-10 per month increase. Twenty to $30 is a much harder sell.



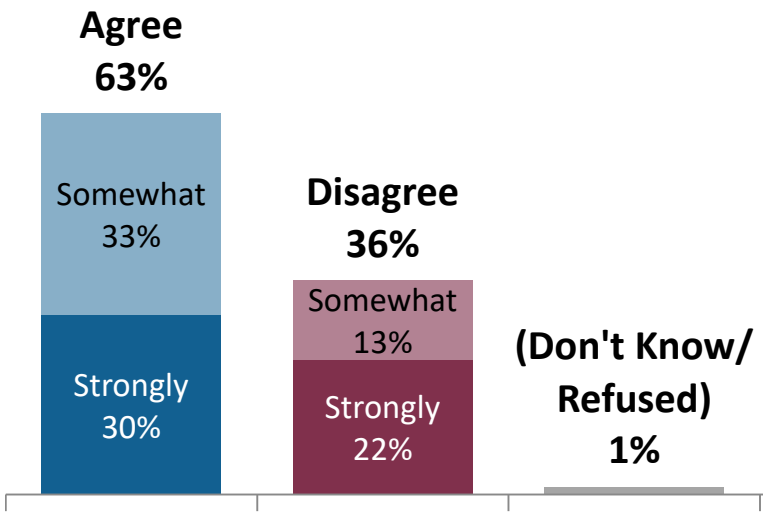
Q10-11. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Attitudes Toward a $5 to $10 Increase

Those who hear an increase amount only are more open to a $5-10 increase than those who also hear about the corresponding tradeoff in cutbacks.

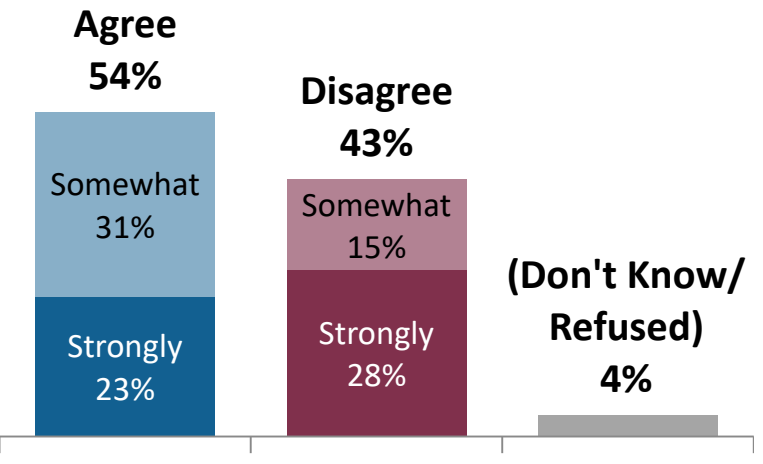
Rate Increase Only
n=200, MoE=±6.9%

In order to ensure a more reliable supply of water for our area, I would support a $5-10 per month increase in water rates now to invest in infrastructure for the future.



Percent Reduction and Rate Increase
n=200, MoE=±6.9%

In order to avoid having to reduce my water use by more than 20% during drought years, I would support a $5-10 per month increase in water rates now to invest in infrastructure for the future.



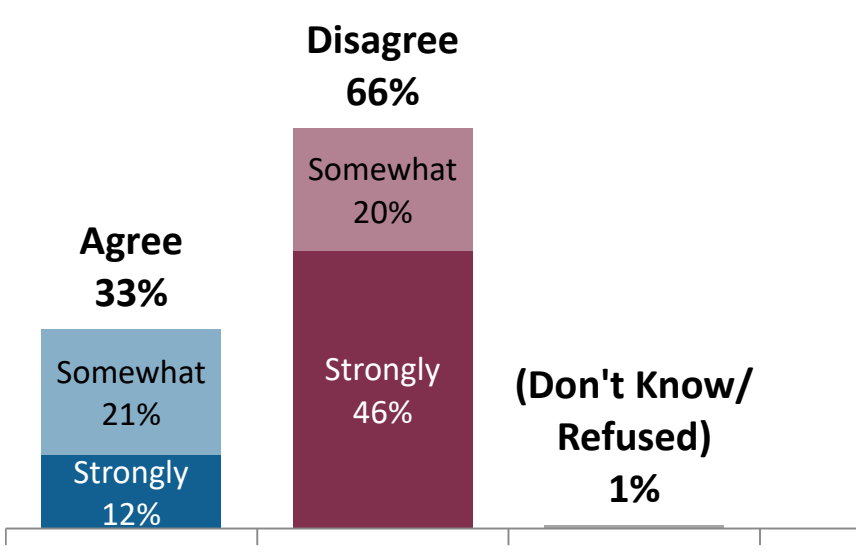
Q11. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

Attitudes Toward a $20 to $30 Increase

Including the reduction tradeoff does not make a $20-30 increase more palatable.

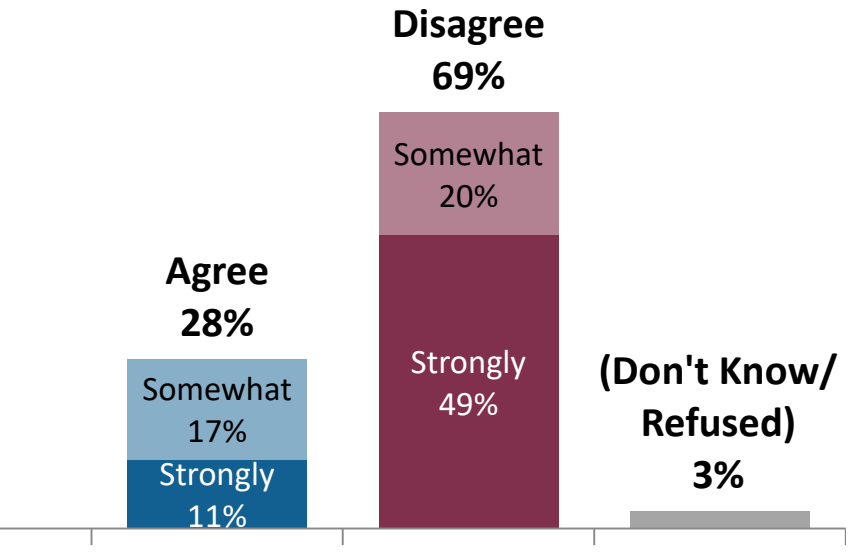
Rate Increase Only
n=200, MoE=±6.9%

In order to ensure a more reliable supply of water for our area, I would support a $20-30 per month increase in water rates now to invest in infrastructure for the future.



Percent Reduction and Rate Increase
n=200, MoE=±6.9%

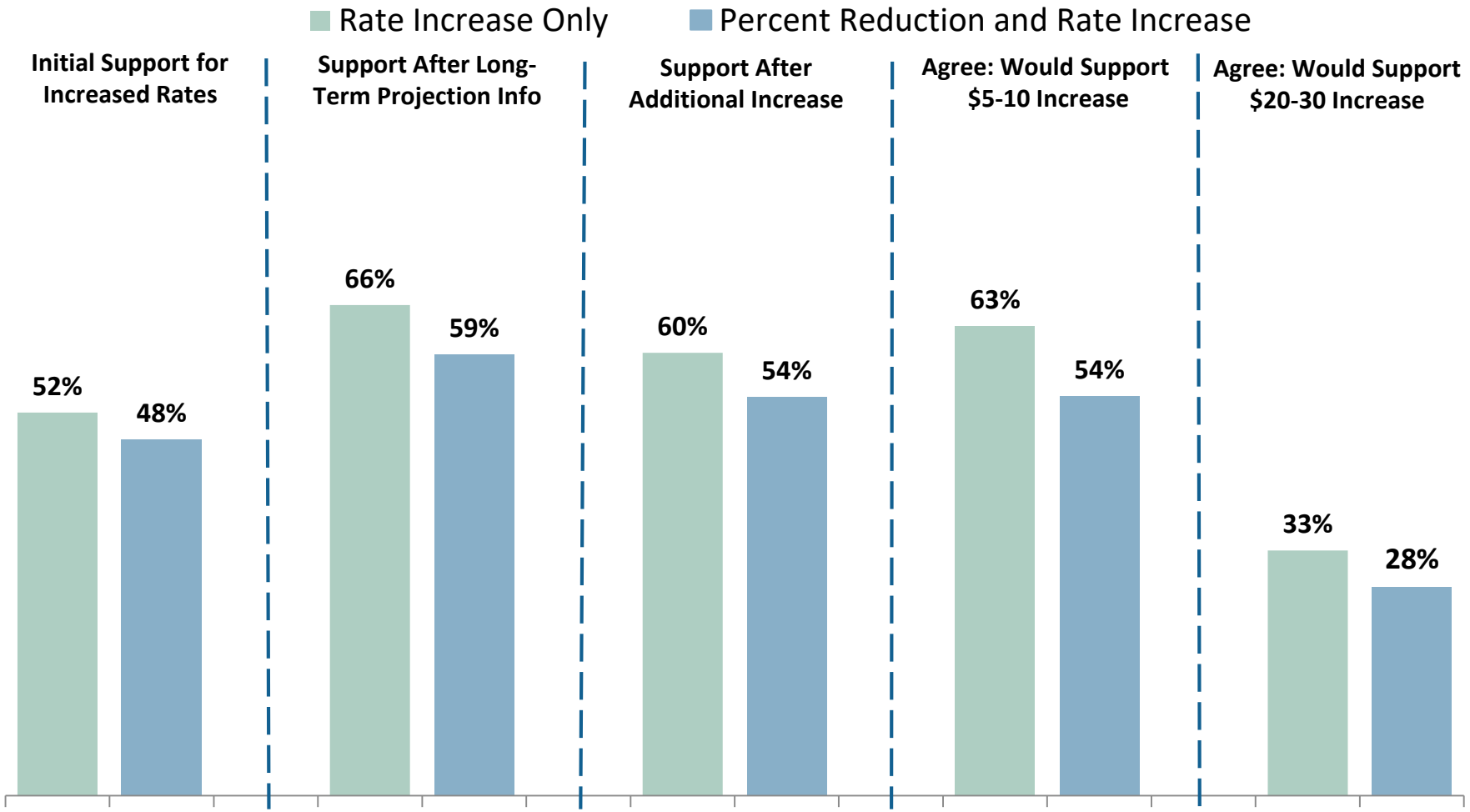
In order to avoid having to reduce my water use by more than 10% during drought years, I would support a $20-30 per month increase in water rates now to invest in infrastructure for the future.



Q10. Please tell me whether you strongly agree, somewhat agree, somewhat disagree, or strongly disagree with each of the following statements.

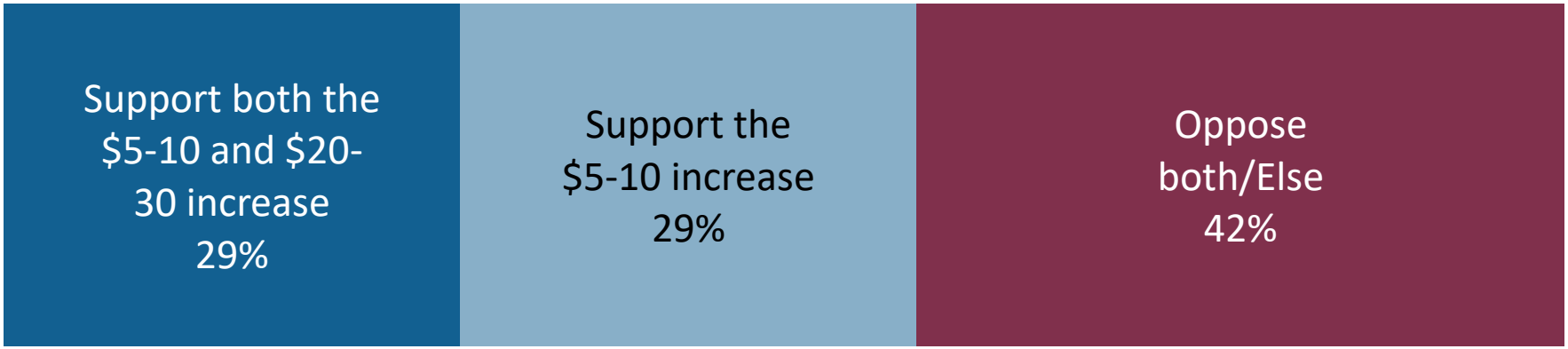
Support and Attitudes - Rate Increase Only

Although we don't see that explaining the limit on cutbacks is helpful, note that those who heard about the reduction targets were less supportive of rate increases throughout.



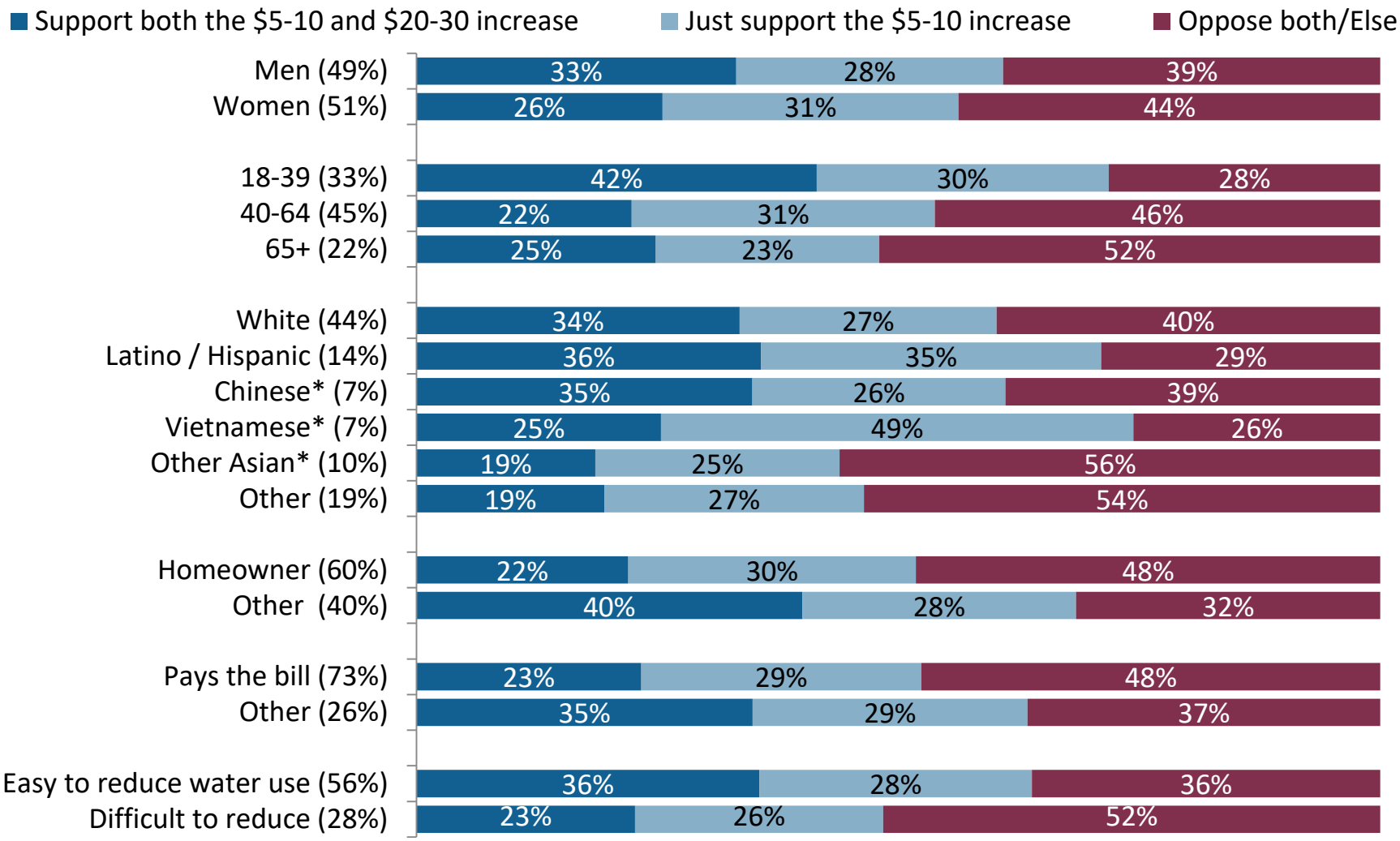
Support Segmentation: Increase in Water Rates

Just under a third support both increase amounts. The same number support the smaller increase only.



Support Segmentation by Subgroup

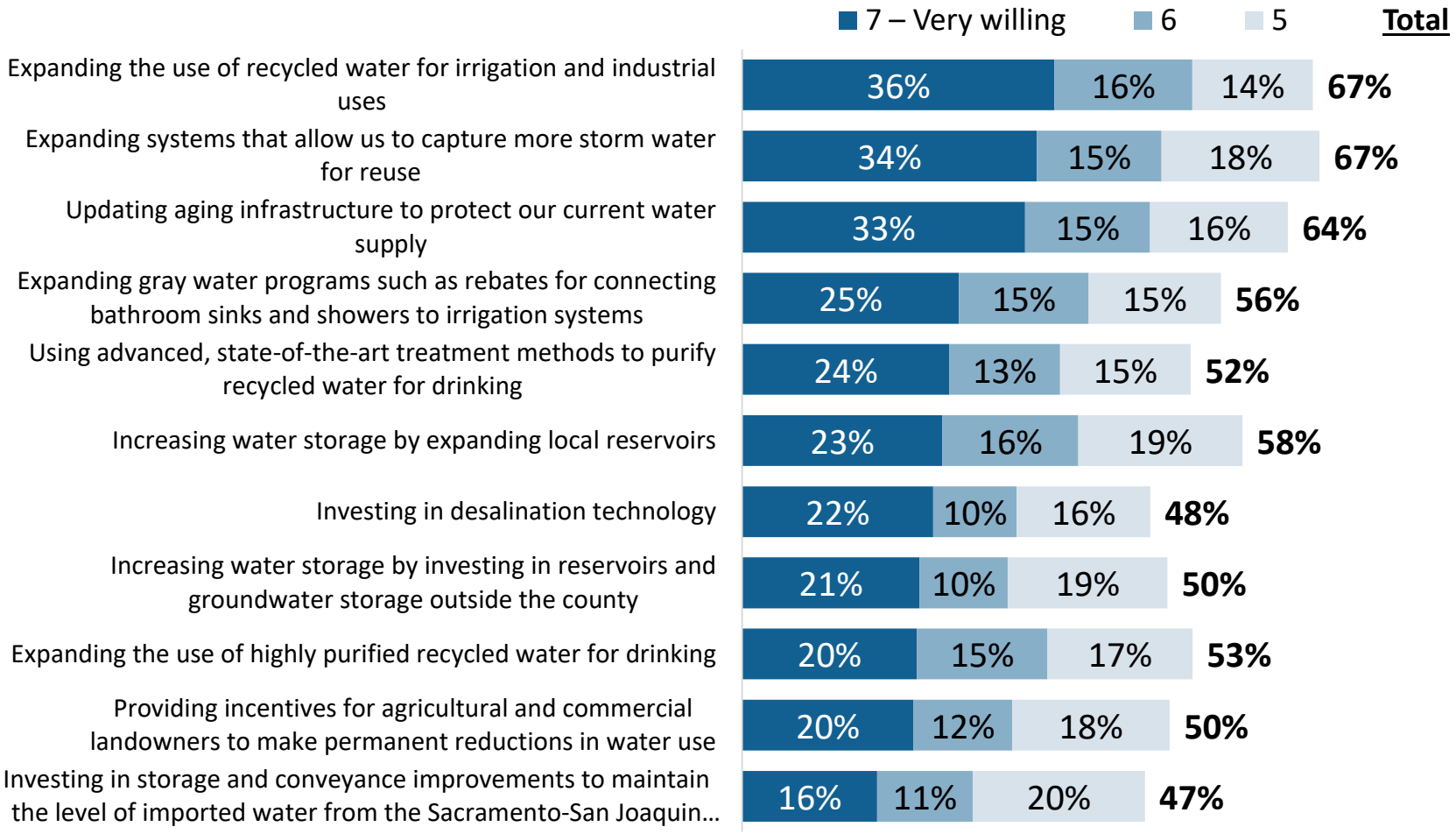
Younger voters and renters are most likely to be supportive of both increases.



*use caution when generalizing the results among these groups due to small sample sizes

Willingness to Pay for Specific Improvements

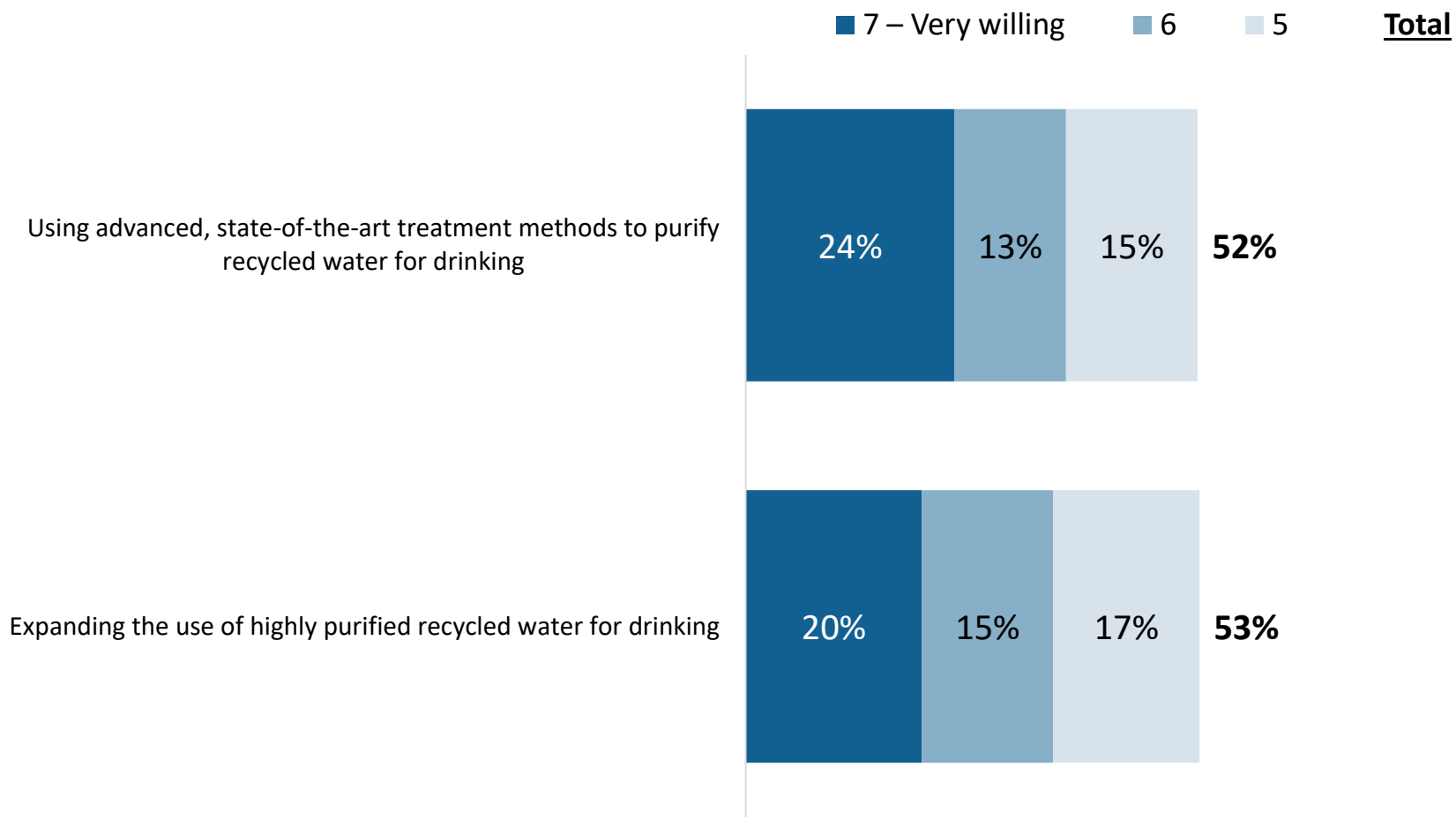
Expanding purple water use and storm water capture and updating aging infrastructure are the specific improvements for which voters are most willing to pay increased rates.



Q15-Q25. I'm going to read you a list of improvements the Santa Clara Valley Water District could make to ensure a more reliable supply of water. These improvements could potentially lead to changes in water rates. For each one, please indicate your willingness to pay increased rates for each type of improvement. Please use a scale from 1 to 7, where 1 means you are not at all willing to pay higher water rates for that item, and 7 means you are very willing to pay higher water rates for that item.

Willingness to Pay for Potable Reuse

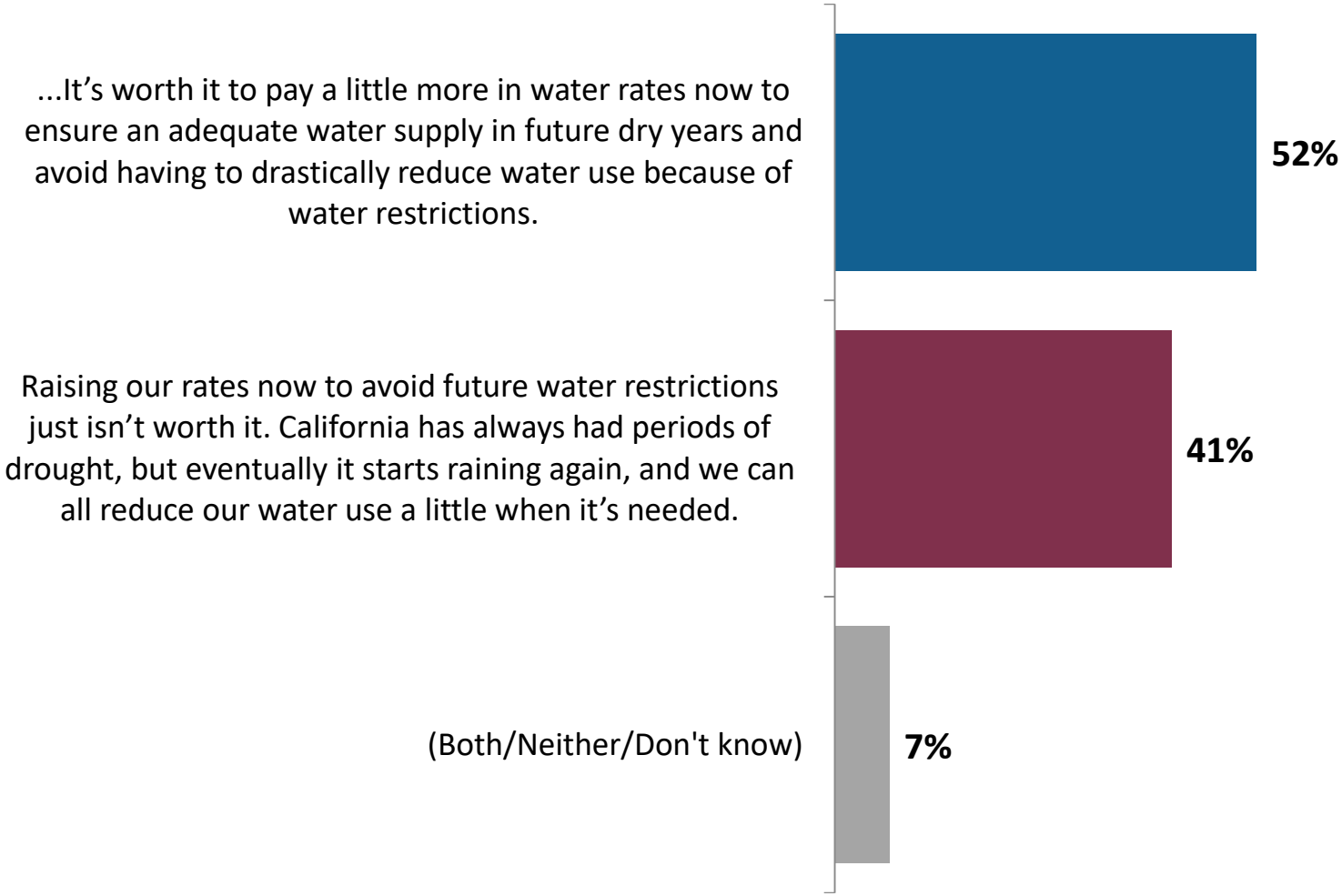
State-of-the-art treatment of recycled water for drinking generates slightly more enthusiasm than highly purified recycled water.



Q15-Q25. I'm going to read you a list of improvements the Santa Clara Valley Water District could make to ensure a more reliable supply of water. These improvements could potentially lead to changes in water rates. For each one, please indicate your willingness to pay increased rates for each type of improvement. Please use a scale from 1 to 7, where 1 means you are not at all willing to pay higher water rates for that item, and 7 means you are very willing to pay higher water rates for that item.

Forced Choice: Worth Investing Now?

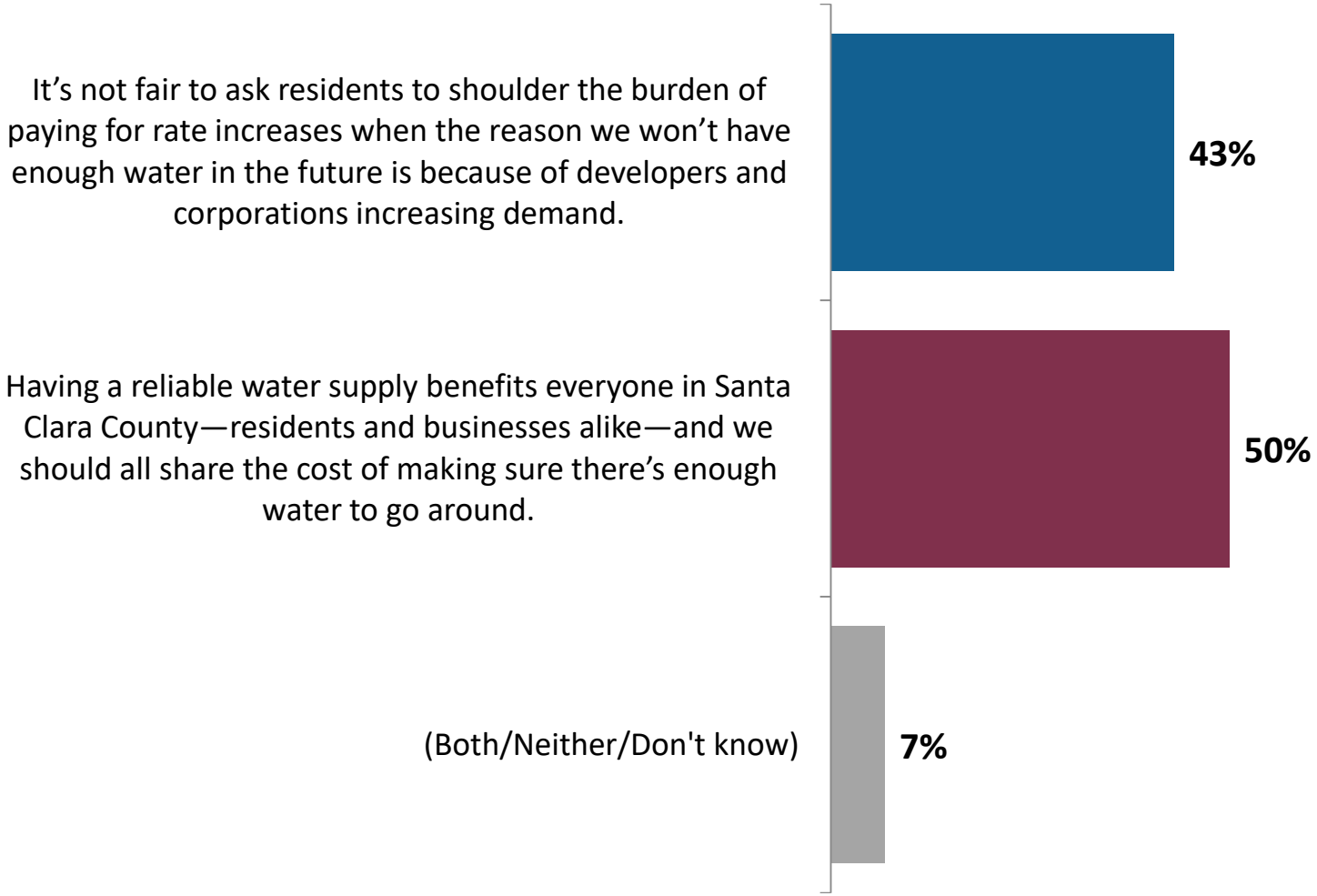
Just about half agree that it's worth it to pay more now to be prepared for future dry years and avoid big water restrictions later.



Q26. Now I'd like to read you a pair of statements. Please tell me whether the first one or the second one is closer to your opinion.

Forced Choice: Cost Sharing

Half feel that residents and businesses should all share the cost of ensuring an adequate water supply, while slightly fewer say it's not fair for residents to shoulder the burden.



Q27. Now I'd like to read you a pair of statements. Please tell me whether the first one or the second one is closer to your opinion.

Contacts

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ruth@emcresearch.com

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Sianna Ziegler
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Committee:	Water Conservation and Demand Management
Meeting Date:	04/27/17
Agenda Item No.:	4.3
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	10 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Making Water Conservation a California Way of Life

RECOMMENDED ACTION:

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

SUMMARY:

On April 7, 2017, the state released the final framework "Making Water Conservation a California Way of Life" (Attachment 1) as well as a Fact Sheet (Attachment 2). The framework focuses on four key themes:

1. Use water more wisely: includes new water conservation standards for urban water suppliers and permanent reporting.
2. Eliminate water waste: includes permanent water use prohibitions and minimize water loss through distribution system leaks.
3. Strengthen local drought resilience: requires urban water suppliers to submit Water Shortage Contingency Plans, conduct 5-year Drought Risk Assessments, and conduct and submit water budget forecasts annually.
4. Improve agriculture water use efficiency and drought planning: requires agriculture water suppliers to develop an annual water budget, identify agriculture water management objectives and implementation plans, quantify measures to increase water use efficiency, and develop a drought plan. Also requires agriculture water suppliers providing over 10,000 acres of irrigated land to prepare, adopt, and submit a water management plan every five years.

Actions included in the framework that can be implemented using existing authorities (e.g., permanent water use prohibitions and annual reporting) will likely be addressed in 2017 by the respective state agency. Actions that will require new/expanded authorities through new legislation (e.g., water conservation standards and Water Shortage Contingency Plan requirements) will likely be addressed during the 2017 and 2018 legislative sessions. Provisional water conservation standards will be developed by 2018, final standards will be adopted by 2021, and full compliance will be required by 2025.

BACKGROUND:

In addition to the state's drought response efforts, on May 9, 2016, the Governor issued Executive Order (EO) B-37-16 directing state agencies to establish a long-term framework for water conservation and drought planning. The intent was to build on the conservation savings achieved during the most recent drought and the Governor's Water Action Plan. A proposed framework "Making Water Conservation a California Way of Life" was released by the state on November 30, 2016, with comments due by December 19, 2016. The State

Agencies updated the proposed framework based on comments received, and submitted a final draft to the Governor's office on January 20, 2017. The final framework was released on April 7, 2017.

ATTACHMENT(S):

Attachment 1: "Making Water Conservation a California Way of Life"
Attachment 2: Fact Sheet

Making Water Conservation a California Way of Life

Implementing Executive Order B-37-16

FINAL REPORT
April 2017

This report was prepared by the California Department of Water Resources, State Water Resources Control Board, California Public Utilities Commission, California Department of Food and Agriculture, and California Energy Commission in response to Governor Edmund G. Brown Jr's Executive Order B-37-16 and to provide information to the California Legislature and the public.

This report is available in electronic form:
http://www.water.ca.gov/wateruseefficiency/conservation/

Edmund G. Brown Jr.
Governor
State of California

William Croyle
Acting Director
California Department of Water Resources

Felicia Marcus
Chair
State Water Resources Control Board

Michael Picker
President
California Public Utilities Commission

Karen Ross
Secretary
California Department of Food and Agriculture

Robert B. Weisenmiller
Chair
California Energy Commission

Executive Summary

The past five years have brought both historic drought and flooding to California – a reflection of the fact that California experiences the most extreme variability in yearly precipitation in the continental United States. Variability marks California water resources not just year to year, but also by season and location. Our water systems routinely move water hundreds of miles to serve large cities and immense agricultural productivity, but also must help sustain ecologically valuable river and estuary systems. Our population of nearly 40 million people is expected to grow, and climate change is expected to bring rising sea levels, reduced snowpack, and altered precipitation patterns that will affect our ability to maintain water supplies and wildlife habitat. Widespread, careful use of water will help us cope no matter how conditions change. We must always be prepared for extreme fluctuations and use water more wisely, eliminate waste, strengthen local drought resiliency and improve agricultural water use efficiency and drought planning.

The California Water Action Plan, first released in 2014 and updated in 2016, is the five-year roadmap used by the Brown Administration to bring resilience and reliability to our water systems and to restore important ecosystems. Ten principles define California's Water Action Plan, including "Make Conservation a California Way of Life."

In May of 2016 Governor Edmund G. Brown Jr. signed Executive Order (B-37-16) that instructed State agencies to help Californians adopt permanent changes to use water more wisely. The Executive Order laid out a framework for moving the state from temporary, emergency water conservation measures to a more durable approach customized to the unique conditions of each local water agency. This report builds upon the Executive Order and provides recommendations for how to implement long-term improvements to water supply management that support water conservation.

Building on Past Success

After Governor Brown called for a 25 percent reduction in urban water use in 2015, Californians rose to the challenge and saved an average of more than 24 percent during the twelve months the mandate was in place. Executive Order B-37-16 builds on that conservation success to establish long-term water conservation measures.

Key to the Executive Order is a requirement that the state's 409 urban water suppliers meet new water use targets. Rather than measuring water savings as a percentage reduction from a chosen baseline, the new standards recognize past investments by water suppliers in advancing conservation, and take into account the unique climatic, demographic and land-use characteristics of each urban water agency's service area. This approach allows regions to develop an approach best suited for their community.

Managing water under this framework will require the collective and concerted efforts of state and local governments, non-governmental organizations, businesses, and the public. All of these groups responded to the Governor's call for mandatory water conservation efforts in 2015, and must continue the collaboration to implement the important actions laid out in the Executive Order and this report.

Preparing This Report and Key Recommendations

Five state agencies – the Department of Water Resources, the State Water Resources Control Board, the California Public Utilities Commission, the California Department of Food and Agriculture, and the California Energy Commission (collectively referred to as the "EO Agencies") – were charged with implementing the Executive Order's four inter-related objectives: using water more wisely, eliminating water waste, strengthening local drought resilience, and improving agricultural water use efficiency and drought planning.

The EO Agencies will undertake a suite of actions that can be implemented using existing authorities to implement the four objectives. These include rulemaking proceedings, expanded technical assistance, and evaluation and certification of new technologies. Where necessary, the EO Agencies also recommend additional actions and authorities needed to meet the goals of the Executive Order.

Using Water More Wisely

Emergency Conservation Regulations (Executive Order Item 1): The State Water Resources Control Board (Water Board) will rescind the emergency requirement for a water supply stress test or mandatory conservation standard for urban water agencies, but, to provide a bridge to permanent requirements, it will continue to require monthly reporting and to prohibit wasteful practices (see below).

New Water Use Targets (Executive Order Items 2 and 6): Upon statutory authorization, the EO Agencies will adopt a new urban water use target methodology. Urban water suppliers would, in turn, be required to calculate their unique water use targets based on those standards and local conditions.

Permanent Monthly Reporting (Executive Order Item 3): The Water Board will open a rulemaking process to establish permanent monthly urban water reporting on water usage, amount of conservation achieved, and any enforcement efforts.

Eliminating Water Waste

Water Use Prohibitions (Executive Order Item 4): The Water Board will open a rulemaking process to establish permanent prohibitions on wasteful water practices, such as hosing down sidewalks and watering lawns after rain. This will build on the current prohibited uses in the emergency regulation.

Minimizing Water Loss (Executive Order Items 5 and 6): Senate Bill 555 (Wolk, 2015) requires all urban retail water suppliers in the state to submit a completed and validated water loss audit annually to the Department of Water Resources. The EO Agencies will take additional actions to accomplish the directives in that law related to reducing water supplier leaks. These actions include establishment of rules for validated water loss audit reports, water loss performance standards, and technical assistance for water loss audits and minimizing leaks.

Innovative Water Loss & Control Technologies (Executive Order Item 7): The California Energy Commission (CEC) is evaluating various options for certification of water loss detection and control technologies at utility, household, and appliance levels. The CEC is also making investments in research and funding programs for water saving devices and technologies.

Strengthening Local Drought Resilience

Water Shortage Contingency Plans (Executive Order Items 8, 9, and 6): Upon statutory authorization, urban water suppliers will be required to submit a Water Shortage Contingency Plan, conduct a Drought Risk Assessment every five years, and conduct and submit a water budget forecast annually.

Drought Planning for Small Water Suppliers and Rural Communities (Executive Order Item 10): The EO Agencies' recommendations focus on working with small water suppliers and rural communities to continue to develop more specific drought vulnerability assessments and supplier readiness and responsiveness during drought.

Improving Agricultural Water Use Efficiency and Drought Planning

Strengthened Agricultural Water Management Plan Requirements (Executive Order Items 11, 12, 13, and 6): Upon statutory authorization, the proposal described in this report would expand existing requirements to require agricultural water suppliers providing water to over 10,000 irrigated acres of land to prepare, adopt, and submit plans by April 1, 2021, and every five years thereafter.

Table ES-1 summarizes the organization of the conservation framework presented in this report and the corresponding Executive Order items.

Implementation

The Administration will work closely with the Legislature to implement the recommendations of this report. The EO Agencies hope that this report will advance our progress under the California Water Action Plan and help "Make Conservation A Way of Life."

Table ES-1. Actions and Recommendations Summarized in this Report

Chapter Section and Title where Item is Addressed	Executive Order Items													Within Existing Authorities (Chapter 2)	Requires New Authority (Chapter 3)
	Use Water More Wisely			Eliminate Water Waste				Strengthen Local Drought Resilience			Improve Agricultural Water Use Efficiency & Drought Planning				
	1	2	3	4	5	6	7	8	9	10	11	12	13		
2.1 Emergency Water Conservation Regulations for 2017	●													✓	
2.2 Permanent Prohibition of Wasteful Practices			●	●										✓	
2.3 Reduced Water Supplier Leaks and Water Losses					●	●								✓	
2.4 Certification of Innovative Technologies for Water Conservation and Energy Efficiency							●							✓	
3.1 New Water Use Targets Based on Strengthened Standards		●				●									✓
3.2 Water Shortage Contingency Plans						●		●	●						✓
3.3 Drought Planning for Small Systems & Rural Communities										●					✓
3.4 Agricultural Water Management Plans						●					●	●	●		✓

Note: The Executive Order directs DWR, Water Board, and CPUC to develop methods to ensure compliance with the provisions of the order, including technical and financial assistance, agency oversight, and, if necessary, enforcement action by the Water Board to address non-compliant water suppliers. These are described in Chapters 2 and 3.

Contents

Acronyms and Abbreviations

20x2020	20 percent reduction in urban per capita water use by 2020
20x2020 Plan	20x2020 Water Conservation Plan
AB	Assembly Bill
AU	Agronomic Use
AW	Applied Water
AWMP	Agricultural Water Management Plan
AWUF	Agronomic Water Use Fraction
AWWA	American Water Works Association
BMP	best management practice
CASGEM	California Statewide Groundwater Elevation Monitoring
CCF	centum cubic feet
CCR	California Code of Regulations
CCUF	Crop Consumptive Use Fraction
CDFA	California Department of Food and Agriculture
CEC	California Energy Commission
CII	commercial, industrial, and institutional
CIMIS	California Irrigation Management Information System
CPUC	California Public Utilities Commission
CUWCC	California Urban Water Conservation Council
CWC	California Water Code
DWR	California Department of Water Resources
E	evaporation
EO	Executive Order B-37-16
EO Agencies	California Department of Water Resources, State Water Resources Control Board, California Department of Food and Agriculture, California Public Utilities Commission, California Energy Commission
EPIC	Electric Program Investment Charge
ETo	Reference evapotranspiration
ETc	evapotranspiration of crops
ETAF	Evapotranspiration Adjustment Factor

ETAW	Evapotranspiration of Applied Water
EU	Environmental Use
EWMP	Efficient Water Management Practice
GPCD	gallons per capita per day
GRC	General Rate Case
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
MOU	Memorandum of Understanding
MWELO	Model Water Efficient Landscape Ordinance
Reclamation	U.S. Department of the Interior, Bureau of Reclamation
RF	Recoverable Flows
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SRA	Shortage Response Action
SWRCB or Water Board	State Water Resources Control Board
TWUF	Total Water Use Fraction
USEPA	U.S. Environmental Protection Agency
UWMP	Urban Water Management Plan
Water Action Plan	California Water Action Plan
Water Loss TAP	California Water Loss Control Collaborative' s Technical Assistance Program
WET	Water Energy Technology
WMF	Water Management Fraction
WSCP	Water Shortage Contingency Plan

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Chapter 1 – Introduction

Water has been a scarce resource in California, and conservation must become a way of life for everyone. Much has changed in the past half century, and our technology, values, and awareness of how we use water have helped to integrate conservation into our daily lives. More can be done, however, and all Californians must embrace and make part of their daily lives the principles of wise water use.

Water has played a significant role in California's history and development. Droughts have often marked critical shifts or tipping points in water resources management, altering how citizens and elected officials view and manage water. Over time, an awareness of water use and water conservation has evolved that has fueled best management practices, funding programs, and legislative and regulatory actions.

California droughts are expected to become more frequent and persistent, as warmer winter temperatures driven by climate change reduce water held in the Sierra Nevada snowpack and result in drier soil conditions. Current drought conditions, which severely impacted the State over the last several years, may persist in some parts of the State into 2017 and beyond. Recognizing these new conditions, permanent changes are needed to use water more wisely and efficiently, and prepare for more frequent, persistent periods of limited supply in all communities and for all water uses, including fish, wildlife, and their habitat needs.

This chapter describes Executive Order B-37-16 (EO), provides a brief summary of California's evolving awareness of and actions relating to drought preparedness and response, and describes the proposed framework for realizing conservation as a California way of life.

1.1 Executive Order B-37-16

Moving to bolster California's climate and drought resilience, Governor Edmund G. Brown Jr. issued the EO on May 9, 2016. The EO builds on temporary statewide emergency conservation requirements and tasks State agencies with establishing a long-term framework for water conservation and drought planning, including permanent monthly water use reporting, new urban water use targets, reducing system leaks and eliminating clearly wasteful practices, strengthening urban drought contingency plans, developing new county drought plans to address the needs of rural communities and small water systems, and improving agricultural water management and drought plans.

The EO directs the California Department of Water Resources (DWR), State Water Resources Control Board (Water Board), California Department of Food and Agriculture (CDFA), California Public Utilities Commission (CPUC), and California Energy Commission (CEC) – collectively referred to as the "EO Agencies" – to summarize in a report a framework for implementing the EO and incorporating water conservation as a way of life for all Californians.

The framework described herein promotes efficient use of the State's water resources in all communities, whether conditions are wet or dry, and prepares the State for longer and more severe drought cycles that will mark our future. The EO directs DWR, the Water Board, and CPUC to develop methods to ensure compliance with the provisions of the EO, including technical and financial assistance, agency oversight, and enforcement action by the Water Board to address non-compliant water suppliers, if necessary.

The full text of the EO is in Attachment A and at https://www.gov.ca.gov/docs/5.9.16_Attested_Drought_Order.pdf.

The actions directed in the EO are organized around four primary objectives: (1) use water more wisely, (2) eliminate water waste, (3) strengthen local drought resilience, and (4) improve agricultural water use efficiency and drought planning.

Use Water More Wisely

The EO calls for DWR and the Water Board to require monthly reporting by urban water suppliers on a permanent basis.[1] This includes information regarding water use, conservation, and enforcement.

It also directs DWR and the Water Board to develop new water use efficiency targets as part of a long-term conservation framework for retail urban water agencies – through a public process and working with partners such as urban water suppliers, local governments, and environmental groups. These targets are to go beyond the 20 percent reduction in per capita urban water use by 2020 that was embodied in Senate Bill (SB) X7-7[2], and are to be customized to fit the unique conditions of urban water suppliers.

The Water Board is also directed to adjust emergency water conservation regulations through the end of January 2017, in recognition of the differing water supply conditions across the State, and develop proposed emergency water restrictions for 2017 should the drought persist.

The "Use Water More Wisely" objective includes EO Items 1, 2, and 3.

Eliminate Water Waste

The EO calls for the Water Board to permanently prohibit wasteful practices, consistent with temporary, emergency prohibitions that were put in place in July 2014. These practices include hosing off sidewalks, driveways, and other hardscapes; washing automobiles with hoses not equipped with a shut-off nozzle; and watering lawns in a manner that causes runoff.

The Water Board and DWR are also directed to take actions to minimize water system leaks across the State. DWR estimates that leaks in water distribution systems siphon away more than 700,000 acre-feet of water a year in California – enough to supply 1.4 million homes for a year. Audits of urban water systems have found that leaks account for an average loss of 10 percent of their total supplies.

The CPUC is directed to prepare a consistent resolution for implementation by its investor-owned utilities. The CPUC is not in a regulatory capacity; see Section 2.3 for information on this directive.

The "Eliminate Water Waste" objective includes EO Items 4, 5, 6, and 7.

Strengthen Local Drought Resilience

DWR is directed to consult with urban water suppliers, local governments, environmental groups and other partners to strengthen standards for local Water Shortage Contingency Plans (WSCP) that are part of the Urban Water Management Plans (UWMP) that urban water suppliers must submit every five years. These strengthened standards would promote planning for adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. For areas not covered by WSCPs, DWR is directed to work with counties to improve drought planning for small water suppliers and rural communities.

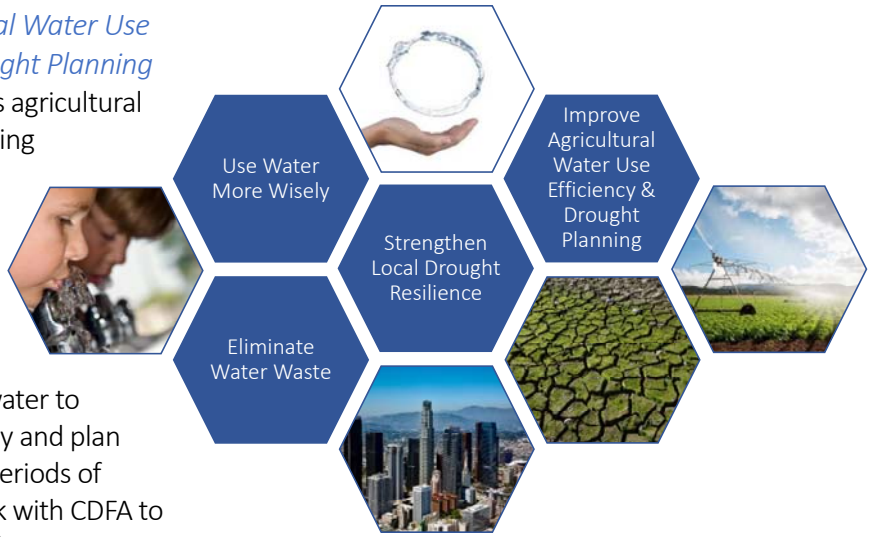
The "Strengthen Local Drought Resilience" objective includes EO Items 8, 9, and 10.

[1] This applies to retail urban water suppliers only as they provide water directly to end users (as opposed to wholesalers that do not provide water directly to end users).

[2] The Water Conservation Act of 2009.

Improve Agricultural Water Use Efficiency and Drought Planning

Current law requires agricultural water suppliers serving 25,000 irrigated acres or more to file Agricultural Water Management Plans (AWMP). In the EO, DWR is directed to update existing requirements for these plans, including requiring suppliers of irrigation water to quantify their water use efficiency and plan for water supply shortages and periods of drought. DWR is directed to work with CDFA to seek public input on the updated requirements. The EO also increases the number of agricultural water suppliers that must file AWMPs by lowering the threshold to those water suppliers serving 10,000 irrigated acres or more.



The "Improve Agricultural Water Use Efficiency and Drought Planning" objective includes EO Items 11, 12, and 13.

1.2 Evolution of Water Conservation in California

California has experienced several major droughts throughout its recorded history. In response to the State's highly variable and seasonal climate, Californians have developed hundreds of water projects and programs – at local, regional, and statewide scales – while learning to adapt to periodic droughts and other hydrologic extremes. Growing awareness of the critical role water plays in the State's economy, health and safety, and environment has precipitated legislative actions and funding programs that have fundamentally transformed the way California's greatest resource – water – is managed.

1.2.1 Historical Droughts

One of the most extreme examples of drought in California occurred in 1976 and 1977, with the 1976 water year ranking as the driest on record and the 1977 water year ranking among the top five driest in California's recorded history. However, while the drought caused unprecedented shortages in the municipal, industrial, and agricultural water sectors, the 1976-1977 drought is often credited with initiating an era of water conservation awareness in California, the results of which are still evident today, including formation of a drought emergency task force and emergency conservation actions. The 1976-1977 drought also caused numerous legislative proposals to be submitted, all with the goal of increasing California's drought responses and resiliency.

Other statewide droughts that have occurred in recent history include the 1987-1992 drought and the 2007-2009 drought. These droughts affected all communities and types of water users, and led to many of the requirements and guidelines in place during the recent drought. 2012 through 2014 are on record as California's driest three consecutive years and 2013 was the driest single year of record in numerous communities across the State, triggering numerous emergency actions at State and local levels.

1.2.2 Resulting Statewide Water Conservation and Related Water Management Planning Efforts

The State's arid climate and history of drought have prompted a variety of programs, actions, and efforts geared toward preparing for and responding

to periods of low water availability. The following highlights some of the key events and actions that have marked this evolution of conservation and water use efficiency in California in recent decades.

Water Conservation Act of 2009

California became the first state to adopt a water use efficiency target with the passage of SB X7-7 in 2009. SB X7-7 mandated the State achieve a 20 percent reduction in urban per capita water use by 2020. The reduction goal is also known as "20x2020." SB X7-7 directed water suppliers to develop individual targets for water use based on an historical per capita baseline.

The 20x2020 Water Conservation Plan (20x2020 Plan) set forth a statewide road map to maximize the State's urban water efficiency and conservation opportunities between 2009 and 2020, and beyond. The recommendations acknowledged that agricultural water use efficiency must also be improved.

What is Drought?

Drought can be defined in many ways, and there is no statutory process in California for defining or declaring a drought. Drought can be described in meteorological terms (a period of below normal precipitation), in hydrologic terms (a period of below average runoff), or in more qualitative terms (shortage of water for a particular purpose). Drought can be any length of time – spanning a single water year or multiple years – and rarely affects all water users or geographies equally. For example, one part of the State may experience severe drought conditions while another experiences a year of above normal rainfall. Drought is often considered a function of drought impacts to water users. Further, the economic, social, and environmental impacts of drought have changed over time as the State's population has grown and our extensive system of water infrastructure has evolved.

Implementation of the 20x2020 Plan includes three phases: (1) completion of the 20x2020 Plan (2009 through 2010); (2) implementation, monitoring, evaluating, and making adjustments (2011 through 2020); and (3) performance evaluation based on improvements from established baseline values for each supplier.

Mandatory Conservation, Water Use Prohibitions, and Other Water Saving Measures during the Recent Drought

As a statewide drought progressed during 2014 and into 2015, California took unprecedented steps to preserve its water supply. With issuance of an emergency drought proclamation by the Governor in 2014, the Water Board was directed to collect monthly water use data from the State's urban water suppliers. The proclamation also called on Californians to voluntarily conserve water, with a goal of reducing water use by 20 percent when compared to pre-drought water use in 2013. However, the collected data showed that voluntary statewide conservation efforts had reached 9 percent – an effort that saved billions of gallons of water, but was well short of the 20 percent goal.

With drought conditions worsening, and the 2014-2015 water year snowpack the lowest in the State's history, the Governor's April 1, 2015 Executive Order (EO B-29-15) directed the Water Board to develop emergency water conservation regulations to implement mandatory water reductions in cities and towns across California. EO B-29-15 also set a goal to reduce potable urban water usage by 25 percent statewide. The Water Board's adoption of the May 2015 drought emergency regulation set mandatory reductions in potable urban water use between June 2015 and February 2016 by identifying a conservation tier for each urban water supplier, based on residential per capita water use for the months of July – September 2014. Conservation tiers ranged from 4 percent to 36 percent.

Under these emergency urban water conservation regulations, statewide cumulative savings from June 2015 to March 2016 totaled 23.9 percent

compared with the same months in 2013. Statewide average water use lowered to 66 residential gallons per capita per day (GPCD) in March 2016, saving nearly 1.3 million acre-feet of water from June 2015 through March 2016.

Recognizing persistent yet less severe drought conditions during the 2015-2016 water year, the Water Board modified and extended its emergency regulation in May 2016. This new approach allowed suppliers to replace their prior percentage reduction-based water conservation standard with a localized "stress test," where they could demonstrate whether a supply shortfall would develop under three additional drought years. Mandatory conservation levels were set for suppliers with projected shortfalls following three additional dry years. Alternatively, suppliers could keep their pre-existing mandatory conservation standard rather than adopting a stress-test conservation standard.

In addition to State-mandated conservation standards, the Water Boards' emergency regulations have specific prohibitions against certain water uses. Those prohibitions include watering down a sidewalk with a hose instead of using a broom or a brush, and overwatering a landscape such that water is running off the lawn, over a sidewalk, and into the gutter.

In total, the Water Board's emergency regulations have resulted in conservation of over 2.15 million acre-feet of water, enough to supply over 10 million people for a year.

EO B-29-15 also called on DWR to establish additional water saving measures, including:

- A statewide initiative to replace 50 million square feet of lawns with drought tolerant landscapes.
- A time-limited statewide toilet replacement and appliance rebate program with the CEC.
- Updating the State Model Water Efficient Landscape Ordinance (MWELO).
- Additional requirements for AWMPs.

DWR quickly established rebate and direct installation programs for both lawn conversion and the replacement of older toilets with high efficiency toilets. In addition, DWR collaborated with nonprofits to provide over 230 workshops statewide on landscape and irrigation efficiency, turf replacement, high efficiency toilet replacement, water management planning for agricultural and urban water suppliers, and conveyance system audit and leak detection for small water systems, rural communities, agricultural water suppliers and tribal governments.

DWR developed and sponsored a key exhibit at the California State Fair, providing hands-on advice to homeowners on lawn conversion and water saving measures.

Indoor and Outdoor Water Use Efficiency

Landscaping typically accounts for over half of residential water demand, and was the focus of some of the State's earliest efforts related to water use efficiency. Passed in 1990, Assembly Bill (AB) 325, the Water Conservation in Landscaping Act, directed DWR to develop MWELO. Initially drafted in 1992 and updated in 2010, the MWELO established a water budget for new construction and certain rehabilitated landscapes. Local agencies were required to adopt the MWELO or a local ordinance at least as effective as the State ordinance. The MWELO was updated in 2015 in response to EO B-29-15. AB 2515 requires DWR to update the MWELO every three years if needed.

Indoor water use has also prompted action at State and federal levels. The efficiency of water fixtures used in California residential dwellings and commercial buildings is being improved through updated requirements in the California Plumbing Code (Part 5 of the California Building Standards Code) per requirements in SB 407 of 2009 and AB 715 of 2007. In addition, new construction is subject to the requirements of the California Green Building Standards Code (Part 11 of the California Building Standards Code) that requires water fixture efficiency exceeding the existing national standards set forth by U.S. Environmental Protection Agency (USEPA) and U.S. Department of Energy. Concurrently, the CEC is updating its Appliance Efficiency Regulations to include stronger standards for fixtures sold in the State.

Water Management Planning and Funding

Conservation and water use efficiency are foundational water management tools that, along with diverse regional and statewide water portfolios, help to ensure adequate and reliable water supplies for all uses. Conservation and water use efficiency are prominent in State water management plans, integrated regional water management plans, the plans of urban and agricultural suppliers, and various associated funding programs.

The 2013 California Water Plan Update highlighted water conservation as one of 17 statewide water management objectives, and emphasized urban water conservation as a water management strategy that would be most effective at matching supply with demand. The plan recognized urban water conservation as the foundation for achieving the 20x2020 mandate.

Conservation and drought protection are also two of the focus areas of the 2014 California Water Action Plan (Water Action Plan)[3] and Water Action Plan 2016 Update. Making water conservation a California way of life is the first action identified in the plan and drought resiliency is the fifth action. These are part of a comprehensive approach to water management that includes actions related to integrated water management, Sacramento-San Joaquin Delta management, ecosystem restoration, storage, and flood protection. The Water Action Plan also calls for increasing operational and regulatory efficiencies and identifying sustainable, integrated financing opportunities.

California Water Action Plan

The Water Action Plan provides a roadmap for sustainable water management. It has guided the work of numerous State agencies and prioritized funding at the State level, and provided the groundwork for several important bills and legislation necessary to manage California's water supply during droughts.

Building on the 2014 plan, the 2016 Update describes 10 key actions to align State efforts and investments to ensure reliable water supplies in the future. The first action is to "make conservation a California way of life." To this end, the Water Action Plan includes several specific components:

- *Expand agricultural and urban water conservation and efficiency to exceed SB X7-7 targets*
- *Provide funding for conservation and efficiency*
- *Increase coordinated water energy efficiency and greenhouse gas reduction capacity*
- *Promote local urban conservation ordinances and programs*

The Water Action Plan also provides direction on planning activities to better prepare for droughts in the future, including preparation of drought contingency plans and water shortage contingency plans.

[3] *California Water Action Plan*. California Natural Resources Agency. January 2014.

Water conservation in California has gained support from a series of State grant programs to provide important financial assistance required to implement conservation programs. Those State grant programs include funding from Proposition 13 (2000, $565 million), Proposition 50 (2002, $680 million), Proposition 84 (2006, $1.2 billion), and Proposition 1 (2014, $810 million).

Various federal agencies also provide conservation and drought funding, including the U.S. Department of the Interior, Bureau of Reclamation (Reclamation) and the USEPA. Reclamation's Drought Response Program under WaterSMART provides assistance to water users for drought contingency planning, including climate change and actions that build towards long-term drought resiliency. USEPA provides funding for various infrastructure and conservation projects through the Clean Water State Revolving Fund and the Drinking Water State Revolving Fund, both of which are managed and administered by the Water Board in California.

Groundwater Sustainability

Groundwater is an important component of California's water supply, particularly in dry years. The Sustainable Groundwater Management Act (SGMA) requires development of specialized groundwater sustainability plans in each region to support a more reliable and resilient water supply portfolio for the State as a whole. It is common for rural communities, small systems, and agriculture to rely heavily on groundwater, including private wells, to meet their supply needs. Consequently, SGMA and its implementation could have significant effects on water conservation, water use efficiency, and long-term water supply reliability.

1.2.3 Recent Drought Actions and Effects

In recent years, dry conditions throughout the State have underscored the importance of water conservation and achieving greater climate and drought resilience and preparedness.

CONSERVATION versus EFFICIENCY

The terms water conservation and water use efficiency are often used interchangeably. As used in this report, water conservation is defined as a reduction in water loss, waste, or use. The general term water conservation may include water use efficiency, in which more water-related tasks are accomplished with lesser amounts of water.

2012 through 2014 are on record as California's driest three consecutive years with respect to statewide precipitation. 2013 was the driest on record in numerous communities across the State, including San Francisco, Sacramento, and Los Angeles. Parts of Northern California had no measurable precipitation for more than 50 consecutive days during winter months that historically see the year's highest precipitation totals. Reservoirs remained low in the spring, and groundwater pumping increased dramatically throughout the State as surface water supplies became limited or unavailable.

Persistent dry conditions prompted a series of Executive Orders from 2014 through 2016 that have guided California's drought response. The Governor proclaimed a State of Emergency on January 17, 2014. This drought proclamation directed State agencies to take specified actions and requested that Californians voluntarily reduce their water usage by 20 percent compared with the 2013 baseline. Following the 2014 emergency declaration, the Governor and State Legislature worked closely to secure and accelerate appropriation of funding for drought-related actions. Emergency drought legislation contained in Senate Bills 103 and 104 provided $687 million to assist drought-stricken communities and implement projects to better capture, manage and use water resources. Over $400 million was provided through Proposition 84 bond funds for grants to local agencies for integrated regional

water management projects, including projects that strengthened water conservation.[4]

Subsequent Executive Orders directed local urban water suppliers to immediately implement water shortage contingency plans, ordered the State's drinking water program to target communities in danger of running out of water, and supported the Water Board to administer various water rights actions, including curtailments and mandatory conservation (described earlier in this chapter).

In addition, the Water Action Plan provided guidance to State agencies to better align their priorities related to water resources management, including long-term drought resilience and response. The plan and its 2016 Update have facilitated the Governor and State Legislature's engagement in several key legislative efforts, subsequent bond initiatives, and state budgeting efforts.

The recent drought related actions and response activities culminated in Executive Order B-37-16 in May 2016. The EO builds on the conservation successes achieved in recent years to establish long-term water conservation measures and improve proactive drought planning and response.

The impacts of the current drought have been severe, characterized by limited or exhausted drinking water supplies in some communities, lost agricultural production and jobs, severely depleted groundwater basins, and significant harm to native habitats and species. Despite Californians responding to the call to conserve water, more frequent and extended dry periods are anticipated under our changing climate, which would be characterized by warmer winter temperatures and reduced water supplies held in mountain snowpack.

Californians Respond

Californians demonstrated their inherent resilience and ability to conserve water and adapt to changing conditions. Between June 2015 and March 2016, urban water systems reduced water use by 23.9 percent, saving enough water to provide 6.5 million residents with water for one year.

"Californians stepped up during this drought and saved more water than ever before, but now we know that drought is becoming a regular occurrence and water conservation must be a part of our everyday life."

Governor Edmund G. Brown Jr.

The effects of drought are likely to intensify in the future as the State population continues to grow and competition for water resources intensifies. It is recognized that permanent reductions in per capita water use, and increases in water use efficiency across all sectors, will be needed to ensure long-term water supply reliability for the State. It is also acknowledged that new goals and targets will be needed that go beyond 2020 to support continued economic prosperity and healthy ecosystems, while adapting to a changing climate.

1. 3 Framework for Realizing Water Conservation as a California Way of Life

This document was prepared in response to the Governor's directive to publish a framework for implementation of the EO. In support of water conservation, EO Agencies recognize that the legislature has, through California Water Code (CWC) Section 1011, deemed reductions in water use due to conservation as equivalent to reasonable beneficial use of that water. The proposed framework is not intended to affect or

[4] Additional drought funding was also included in subsequent State budgets (http://www.ebudget.ca.gov/).

otherwise limit any rights to water conserved under applicable law, including without limitation, water conserved consistent with CWC Section 1011.

This report was prepared to inform the Governor, the California Legislature, and the public of the actions and recommendations of the EO Agencies in implementing the EO. Water suppliers that may be affected by the EO may use this document to better understand the proposed requirements and when those requirements could go into effect.

This section describes the process used by EO Agencies in developing the conservation framework, including public and stakeholder engagement.

1.3.1 Executive Order B-37-16 Process

The EO Agencies have worked collaboratively to identify actions and recommendations that can satisfy the directives in the EO, and identify a timeline for their implementation. Underlying this process was the intent to provide:

- Clarity in the new requirements;
- Flexibility for retail water suppliers in carrying out their local responsibilities;
- Transparency in desired conservation outcomes and accountability; and
- A rational means for tracking progress over time.

The intent of the long-term conservation framework is to:

- Establish greater consistency in the elements of UWMPs, WSCPs, and AWMPs among water suppliers statewide.
- Enable water suppliers to customize water management strategies and plan implementation to regional and local conditions.
- Empower water suppliers to take a place-based response to water shortages caused by drought or other emergencies.

The EO Agencies coordinated closely in developing the recommendations for implementing the EO. This included forming cross-agency teams at agency leadership, management, and project staff levels. These teams met regularly to share progress, discuss proposals, and develop the report.

1.3.2 Public Outreach and Stakeholder Engagement

EO Agencies developed a collaborative program to formulate the long-term framework for water conservation and drought planning with extensive public outreach and stakeholder engagement (see also Attachment B).

Public Listening Sessions

The EO Agencies hosted a series of public listening sessions in Northern, Central, and Southern California in June 2016. These sessions provided an overview of the EO and solicited early stakeholder input.

Stakeholder Advisory Groups

The EO directs DWR, the Water Board, and CDFA to "consult with urban water suppliers, local governments, environmental groups, agricultural water suppliers and agricultural producers, and other partners" in carrying out several of the directives: Use Water More Wisely, Strengthen Local Drought Resilience, Eliminate Water Waste, and Improve Agricultural Water Use Efficiency and Drought Planning.

To this end, an Urban Advisory Group and an Agricultural Advisory Group were formed in July 2016 to advise the EO Agencies, solicit input on the recommendations and associated methodologies, and exchange information. Advisory Group members were invited to provide broad representation including urban water suppliers, agricultural water suppliers, local government, academia, professional organizations,

environmental advocates, and other interested parties.

1.3.3 Framework Components

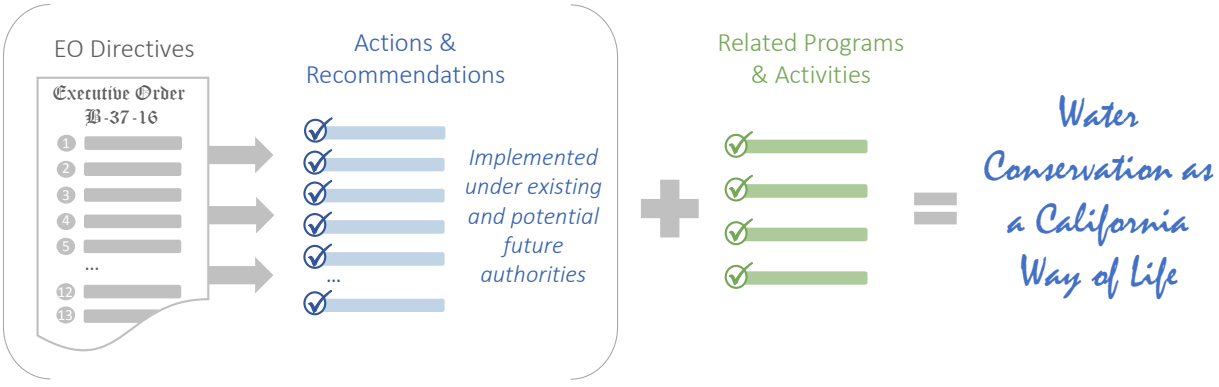
This report describes actions and recommendations for implementing the EO.

- Actions are efforts that have been or may be undertaken within existing authorities to implement portions of the EO. Actions that can be implemented under existing policy or regulatory authorities include potential 2017 emergency water conservation regulations, permanent restrictions on water waste, efforts to reduce water supplier leaks and system losses, and certification of innovative technologies for water and energy conservation.

- Recommendations are efforts proposed by the EO Agencies that may be undertaken to implement portions of the EO but that will require additional authorities. Recommendations include new water use targets, water shortage contingency plans, drought planning for small systems and rural communities, and agricultural management plans.

In addition to the actions and recommendations specific to meeting the directives of the EO, the EO Agencies are engaged in various other programs and activities related to water conservation, water use efficiency, and planning for droughts and other water emergencies. These ongoing efforts encompass technical assistance, funding mechanisms, guidance documents, rulemaking, and enforcement. Related programs and activities are critical to achieving the State's water use efficiency and conservation goals.

The EO actions and recommendations, along with other related State programs and activities, constitute the framework for making conservation a California way of life (Figure 1-1), as described in the EO and in the Water Action Plan.



Many of the needed actions and recommendations in this report cannot be implemented without new or expanded authorities. This document describes the additional steps and legislative authority that will be needed. The actions and recommendations herein, together with existing State programs and activities related to conservation and water use efficiency, represent a statewide framework for making conservation a California way of life.

Figure 1-1. Framework for Making Water Conservation a California Way of Life

Table 1-1. EO Actions and Recommendations Summarized in this Report

Chapter Section and Title where EO Item is Addressed	EO Item: Use Water More Wisely			EO Item: Eliminate Water Waste				EO Item: Strengthen Local Drought Resilience			EO Item: Improve Agricultural Water Use Efficiency & Drought Planning			Within Existing Authorities (Chapter 2)	Requires New Authority (Chapter 3)
	1	2	3	4	5	6	7	8	9	10	11	12	13		
2.1 Emergency Water Conservation Regulations for 2017	●													✓	
2.2 Monthly Reporting and Permanent Prohibition of Wasteful Practices			●	●										✓	
2.3 Reduced Water Supplier Leaks and Water Losses					●	●								✓	
2.4 Certification of Innovative Technologies for Water Conservation and Energy Efficiency							●							✓	
3.1 New Water Use Targets Based on Strengthened Standards		●				●									✓
3.2 Water Shortage Contingency Plans						●		●	●						✓
3.3 Drought Planning for Small Systems & Rural Communities										●					✓
3.4 Agricultural Water Management Plans						●					●	●	●		✓

Note: The EO directs the DWR, the Water Board, and CPUC to develop methods to ensure compliance with the provisions of the EO, including technical and financial assistance, agency oversight, and, if necessary, enforcement action by the Water Board to address non-compliant water suppliers.

1.3.4 Organization of this Report

This report describes proposed State actions and recommendations associated with the 13 items included in the EO, as summarized in Table 1-1.

Figure 1-2 illustrates the organization of this report. Chapter 1 provides introductory and background information setting the context for current efforts to improve conservation within the State of California, including a description of the directives in the EO. Chapters 2 and 3 describe how the directives contained in the EO are being and would be implemented. Chapter 4 provides a summary and timeline for implementing the identified actions and recommendations as part of the long-term framework for making conservation a California way of life. Attachment A includes the full language of the EO, and Attachment B summarizes the public outreach and stakeholder engagement conducted to support framework development.

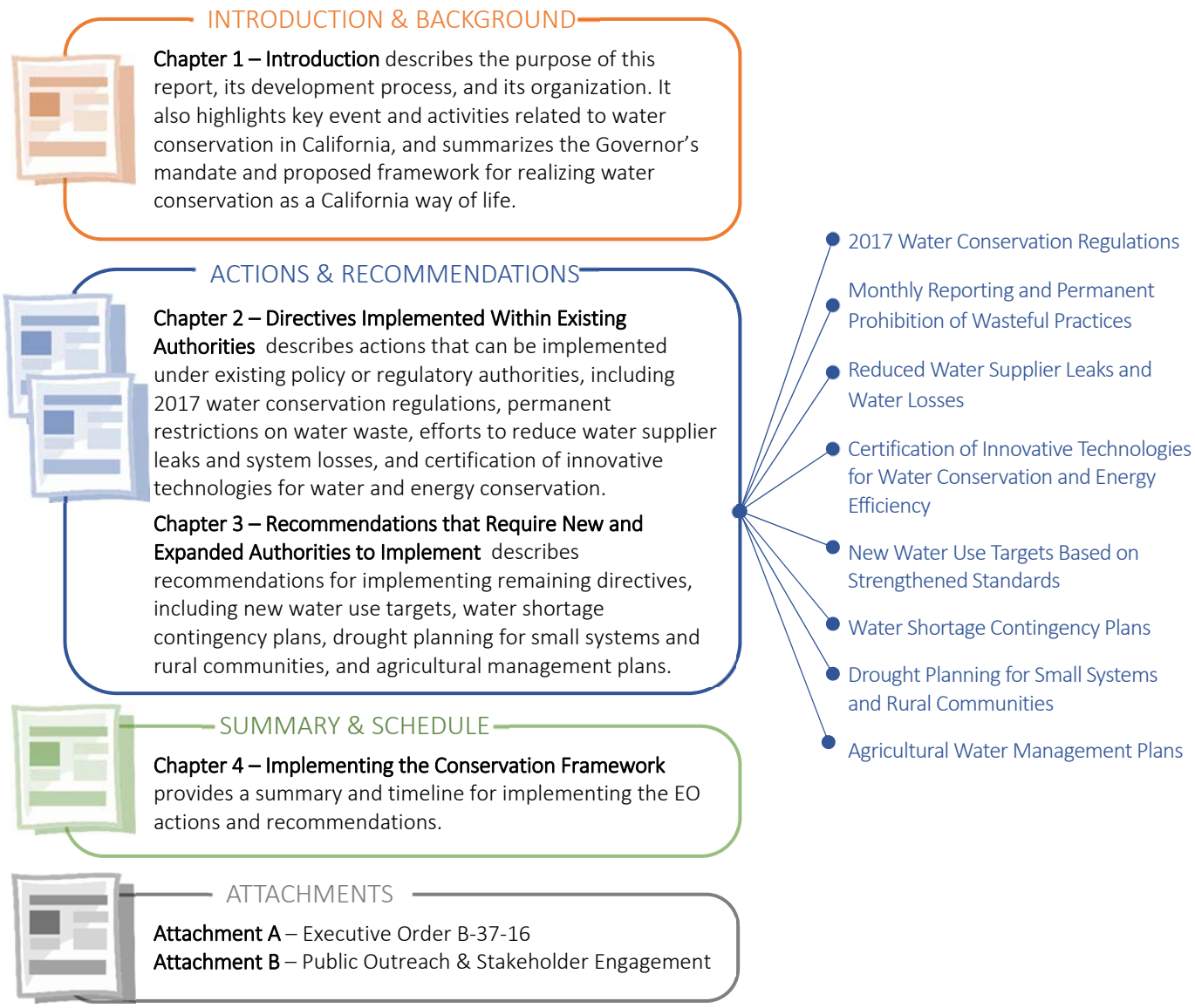


Figure 1-2. Report Organization

Chapter 2 – Directives Implemented Within Existing Authorities

This chapter describes actions that are ongoing or will be undertaken within existing authorities to implement portions of the EO. These include emergency water conservation regulations for 2017 (EO Item 1), monthly reporting and permanent restrictions on water waste (EO Items 3 and 4), efforts to reduce water supplier leaks and system losses (EO Items 5 and 6), and certification of innovative technologies for water and energy conservation (EO Item 7). For each item, the chapter includes descriptions of the need for change, the directive as stated in the EO, and implementation considerations. A summary of implementation activities and schedule are included in Chapter 4.

2.1 Emergency Water Conservation Regulations for 2017

2.1.1 Need for Change

The current emergency regulation for statewide urban water conservation is set to expire on November 25, 2017. However, water supply conditions have markedly changed since the start of the drought. In addition, the Water Board was further directed to permanently maintain reporting requirements and certain types of water use prohibitions as part of the EO.

2.1.2 EO Directive

Water conservation regulations for 2017 address EO Item 1 that states:

> *The State Water Resources Control Board (Water Board) shall, as soon as practicable, adjust emergency water conservation regulations through the end of January 2017 in recognition of the differing water supply conditions across the state. To prepare for the possibility of another dry winter, the Water Board shall also develop, by January 2017, a proposal to achieve a mandatory reduction in potable urban water usage that builds off the mandatory 25% reduction called for in Executive Order B-29-15 and lessons learned through 2016.*

2.1.3 Implementation

Recognizing persistent yet less severe drought conditions due to precipitation near historical averages, the Water Board extended the emergency water conservation regulation on May 18, 2016. Although water conditions had improved by the middle of the 2016/2017 water year, final supply conditions were still uncertain. The Water Board extended the emergency conservation regulations on February 8, 2017 given uncertainty over continued precipitation levels during the late winter and spring of 2017. The current regulation requires locally developed conservation standards based upon each local water agency's specific circumstances. It replaces the prior percentage reduction-based water conservation standard with a localized "stress test" approach. These standards require local water agencies to ensure a three-year supply assuming three more dry years like the ones the State experienced from 2012 to 2015. Water agencies that would face shortages under three additional dry years are required to meet a state-mandated conservation standard equal to the

amount of shortage. A majority of urban water suppliers determined that they have sufficient potable water supplies using the supply reliability test from the May 2016 regulation.

As the precipitation season draws to a close in 2017, reservoirs are near peak capacity and the snow pack is well above average, and the drought emergency has been lifted for most of the state. As a result of improved water supply conditions, the Water Board will rescind the emergency requirement for a water supply stress test or mandatory conservation standard for urban water agencies, but, to provide a bridge to permanent requirements, it will continue to require monthly reporting and to prohibit wasteful practices (see below).

2.1.4 Reporting, Compliance Assistance, and Enforcement

Under the existing emergency regulations, urban water suppliers submit monthly reports to the Water Board on water production, program implementation, and local enforcement activities. The Water Board tracks progress and works with water suppliers to achieve compliance and enforce as needed. The Water Board shares supplier reports and water savings information on its website. These emergency reporting requirements and enforcement activities will cease when the emergency requirements are rescinded.

2.2 Monthly Reporting and Permanent Prohibition of Wasteful Practices

2.2.1 Need for Change

California faces decreasing water supplies through a combination of climate change, increasing population, and economic growth. To thrive as a state and make conservation a way of life in California, we must use our water resources efficiently and stop wasteful practices. Regular and consistent supplier reports have been in place for several years and are an invaluable tool for understanding urban water supplier responses to policy changes and for statewide water management. EO items 3 and 4 direct DWR and the Water Board to extend some provisions in the emergency regulations to become permanent practices.

2.2.2 EO Directive

EO Item 3 establishes continued reporting and data collection requirements by urban water suppliers, and it states:

> *The Department and the Water Board shall permanently require urban water suppliers to issue a monthly report on their water usage, amount of conservation achieved, and any enforcement efforts.*

EO Item 4 focuses on prohibiting waste of potable water:

> *The Water Board shall permanently prohibit practices that waste potable water, such as:*
>
> - *Hosing off sidewalks, driveways and other hardscapes;*
> - *Washing automobiles with hoses not equipped with a shut-off nozzle;*
> - *Using non-recirculated water in a fountain or other decorative water feature;*
> - *Watering lawns in a manner that causes runoff, or within 48 hours after measureable precipitation; and*
> - *Irrigating ornamental turf on public street medians.*

2.2.3 Implementation

The Water Board will be conducting a rulemaking process to establish permanent monthly reporting requirements and prohibitions on wasteful water practices, building on what currently exists in the emergency regulations. This process will run through 2017. The Water Board plans to hold

public workshops to solicit public comments during the rulemaking process.

The Water Board will implement these EO items using its rulemaking process with the following basic steps:

- Water Board staff gather data on potential impacts of the proposed prohibitions and prepare draft regulatory documents.
- The Water Board solicits stakeholder input through workshops and comment periods, responds to stakeholder input, and revises draft regulations as needed. There may be multiple iterations of this step.
- The Water Board adopts the final regulatory package of documents, including final regulations and conformance to California Environmental Quality Act requirements and submits to the Office of Administrative Law for approval.

2.2.4 Reporting, Compliance Assistance, and Enforcement

With permanent monthly reporting requirements in place, urban water suppliers will continue to submit monthly reports to the Water Board on water production, program implementation, and local enforcement activities. The Water Board will continue to track progress and work with water suppliers to achieve compliance, and enforce as needed. The Water Board will continue to post this information publicly on its website.

2.3 Reduce Water Supplier Leaks and Water Losses

2.3.1 Need for Change

Existing studies suggest that water losses, including leaks and breaks in water systems, account for about 10 percent of total urban water production, and in some cases 30 percent or more. DWR estimated almost 700,000 acre-feet per year of water lost at the utility level. Cost-effective water loss reduction represents a potentially significant source of conservation savings.

> **Water Loss**
>
> *There are two types of water loss – real (physical losses such as leaks or breaks) and apparent (nonphysical losses such meter errors, and unauthorized consumption such as theft).*

2.3.2 EO Directive

EO Items 5 and 6 address minimizing system leaks and losses as well as accelerating data collection:

5. *The Water Board and the Department shall direct actions to minimize system leaks that waste large amounts of water. The Water Board, after funding projects to address health and safety, shall use loans from the Drinking Water State Revolving Fund to prioritize local projects that reduce leaks and other water system losses.*

6. *The Water Board and the Department shall direct urban and agricultural water suppliers to accelerate their data collection, improve water system management, and prioritize capital projects to reduce water waste. The California Public Utilities Commission shall order investor-owned water utilities to accelerate work to minimize leaks.*

2.3.3 Implementation

The EO Agencies will meet the requirements of EO Items 5 and 6 through implementation of SB 555, and additional actions to satisfy the EOs directives related to reducing water supplier leaks. Signed in October 2015, SB 555 focuses on identifying real and apparent losses in urban retail water suppliers' distribution systems. It requires the following:

- Annual reporting by urban retail water suppliers

- DWR to perform rulemaking for validated water loss audits
- DWR and the Water Board to provide assistance to retail water suppliers
- The Water Board to set water loss standards between 2019 and 2020

Implementing the water loss audit program as required by SB 555 is a first step towards minimizing system leaks that waste water. As urban retail water suppliers evaluate and identify distribution system water losses, steps can be taken to address those losses.

The SB 555 regulations for water loss audit standards validation and reporting are scheduled to be adopted by the California Water Commission in 2017.

Requirements Related to Urban Water Suppliers

DWR. DWR is preparing rules for water suppliers to follow in preparation of their validated water loss audits. Setting audit standards will improve the reliability of water loss audit data.

By January 1, 2017, DWR must adopt rules for:

- Conduct of standardized water loss audits
- Process for validating a water loss audit prior to submission to DWR
- Technical qualifications and certification requirements for validators
- Method of submitting a validated audit report
- Audit review

DWR must also provide technical assistance to guide water loss detection programs, and update adopted rules within 6 months of the release of subsequent editions of the American Water Works Association's Water Audits and Loss Control Programs, Manual M36.

DWR will identify urban retail water suppliers with high water losses, based on evaluation of the water loss audits submitted in October 2017. Suppliers ranked with high losses will be prioritized for technical assistance. Beginning in 2018, DWR will offer either workshops or one-on-one meetings to these suppliers. The aim of these interactions will be to assist the suppliers in preparing and implementing water loss reduction plans. DWR will provide guidance to suppliers on prioritizing their investments in water loss repair.

DWR will serve as a public information source for water loss data received with UWMPs and the annual water loss audit reporting. A public portal has been established,[5] and in 2017 this website will be enhanced to make the water loss audit reporting data accessible.

Water Board. No earlier than January 1, 2019, and no later than July 1, 2020, the Water Board must adopt rules requiring urban retail water suppliers to meet performance standards for water loss volumes. In adopting these rules, the Water Board will employ life-cycle cost accounting to evaluate the costs of meeting the performance standards. The Water Board will identify compliance and enforcement mechanisms for water loss standards when the standards are adopted. These standards will be utilized for calculating the water targets discussed in Section 3.1 of this report.

As part of implementing SB 555, the Water Board is funding the California Water Loss Control Collaborative' s Technical Assistance Program through the California-Nevada Section of the American Water Works Association to further the preparation of consistent and high quality water loss audits. The program has held several technical assistance workshops in 2016 and will continue to offer technical assistance on water loss audits in 2017.

[5] https://wuedata.water.ca.gov/

The Water Board will also evaluate whether to require urban water suppliers to conduct component analyses[6] to identify cost-effective investments in water loss control ahead of the standards' rulemaking in 2019.

The Water Board will make water loss data available publicly.

CPUC. The CPUC will comply with EO Item 6 by ordering its investor-owned water utilities to accelerate work to minimize leaks to further the EO goal of eliminating water waste.

Since the CPUC requires reporting of water loss by investor-owned utilities, the CPUC will use this data to identify how reductions in non-revenue water can be made. The CPUC adopted Resolution W-5119 on December 1, 2016 acknowledging the progress Class A[7] investor-owned water utilities have made in keeping non-revenue water percentages stable since the Rate Case Plan Decision[8] was adopted. The CPUC in Resolution W-5119 also encourages further work to accelerate actions to minimize leaks, recognizing that system leaks are one component of non-revenue water.

Class A Water Utilities have been reporting non-revenue water metrics through each of their General Rate Case (GRC) Applications in accordance with the prescribed American Water Works Association (AWWA) methodology. This non-revenue water metric can be broken down further, as defined by AWWA in Table 2-1.

As evidenced in Table 2-1, non-revenue water is made up of multiple components, with system leaks being one component. Not all of the Class A Water Utilities currently have the capability to break down their non-revenue water number into the components as defined by AWWA[9], instead reporting this number as a total percentage using AWWA's water loss audit software. However, Class A Water Utilities provide several additional metrics related to system leaks in their GRC applications, including the following:

- Identifying non-revenue water in centum cubic feet (CCF) and percentage of total water production for the last authorized test year, last five years recorded data, and proposed test year amounts.
- Submitting the results of a water loss audit performed no more than 60 days in advance of the submission of the application. The audit report will be prepared using the free Audit Software developed by the AWWA and available on the AWWA website.
- In connection with the water loss audit described above, the utility shall conduct and submit the results of a cost/benefit analysis for reducing the level of non-revenue water reported in the water loss audit. If non-revenue water is more than approximately seven percent for each district or service area, the utility shall submit a plan to reduce non-revenue water to a specific amount.

[6] A leakage component analysis disaggregates the total volume of real losses calculated in a water audit into its three base components: background leakage, unreported leakage, and reported leakage. Water suppliers can use the component analysis, in combination with an evaluation of least cost loss reduction strategies, to identify the most economical means of reducing leakages in their systems.

[7] Class A Water Utilities are defined as utilities having greater than 10,000 service connections.

[8] The Rate Case Plan Decision adopted a schedule for the investor-owned utilities to file General Rate Case applications with the CPUC. The Decision also ordered the utilities to submit Minimum Data Requirements as part of their applications including information on efforts to reduce non-revenue water for the previous five years; a water loss audit in accordance with American Water Works Association; information on number of leaks in the last five years; a description of a utility's leak detection program; and various other metrics for supply and distribution infrastructure status and planning.

[9] Based on the Governor's Executive Order B-37-16 Information Request Response from the Class A Water Utilities to Terence Shia, CPUC, dated September 15, 2016.

Table 2-1. AWWA Water Balance

System Input Volume (corrected for known errors)	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption (including water exported)	Revenue Water
			Billed Unmetered consumption	
		Unbilled Authorized Consumption	Unbilled Metered Consumption	Non-Revenue Water
			Unbilled Unmetered Consumption	
	Water Losses	Apparent Losses	Unauthorized Consumption	
			Customer Metering Inaccuracies	
			Systematic Data Handling Errors	
		Real Losses	Leakage on Transmission and Distribution Mains	
			Leakage and Overflows at Utility's Storage Tanks	
			Leakage on Service Connections up to point of Customer Metering	

Note: All data in volume for the period of reference, typically one year.

- Identifying specific measures taken to reduce non-revenue water in the last five years and proposed test year of the GRC application.
- Identifying the number of leaks in the last five years.
- Describing its leak detection program.
- Providing leak repair time and cost statistics for the last five years.
- Identifying specific measures taken to reduce number of leaks in the last five years and proposed test year.

This information expands on the efforts the CPUC's Class A Water Utilities have spent on minimizing leaks and keeping non-revenue water percentages stable.

The CPUC's Water Division has compiled[6] statistics on non-revenue water percentages from each Class A Water Utility since the Rate Case Plan Decision was adopted in 2008. This data indicates that Class A Water Utilities generally maintain non-revenue water percentages below 10 percent, with some averaging around 4 to 7 percent. Given these numbers, the CPUC acknowledges the work the Class A Water Utilities have done in keeping non-revenue water percentages stable and encourages further work to accelerate actions to minimize leaks. Actions that may be proposed by investor-owned utilities to reduce non-revenue water and minimize leaks include, but are not limited to: water loss audits; accelerated meter and main replacement programs; increased inspections of service connection meters and mains; installation of leak-detection sensors in the distribution system; timely and efficient pipeline repairs; pressure management; and deployment of advanced meter infrastructure.

Although the CPUC's Class B Water Utilities[7] do not have a defined Rate Case Plan and are not under the same reporting requirements as Class A utilities, these utilities shall propose methods to accelerate actions to minimize leaks in their next General Rate Case filings in order to comply with the EO. Class B Water Utilities provide metrics on

[6] Ibid.

[7] Class B Water Utilities are defined as utilities having greater than 2,000 but less than 10,000 service connections.

water loss in Schedule D of their annual reports. Testing data and the number of meters tested is provided in Schedule D-6 of the annual report, and total water delivered to metered customers is provided in Schedule D-7 of the annual report. With the focus on minimizing leaks and reducing water loss, Class B Water Utilities shall continue to track this valuable information and provide the CPUC with this data in annual reports. In addition, the CPUC recommends that these utilities propose methods to accelerate actions to minimize leaks in each of their next General Rate Case filings, where a cost/benefit analysis for reducing water loss can be conducted.

Urban Retail Water Suppliers. By October 1, 2017, and annually thereafter, urban retail water suppliers must submit validated water loss audit reports to DWR. These reports will be made available for public viewing. Performing regular audits will help inform water suppliers about the extent of water losses in their service areas.

Financial Assistance. To incentivize urban retail water suppliers to comply with the requirement to submit validated water loss audit reports, DWR will revise its funding guidelines to state that water suppliers that do not submit reports are ineligible for DWR grants and loans.

The Water Board will offer financial assistance in 2017 to small water systems that have faced water shortages and required emergency assistance during the drought through the Drinking Water State Revolving Fund.

Other financial assistance programs that can be utilized for water loss reduction include the California Infrastructure and Economic Development Bank's revolving loan fund programs and the California Lending for Energy and Environmental Need Center's Program that offers low interest loans of $500,000 to $30 million for water conservation projects. The program is available to non-profit water agencies such as municipalities.

In addition, the CPUC may grant financial incentives for minimizing leaks during the review of each investor-owned utility's upcoming general rate case or by separate applications where further scrutiny can be conducted by interested parties considering the cost/benefit analysis of reducing the levels of non-revenue water.

Requirements Related to Agricultural Water Suppliers

Reducing water waste for agricultural water suppliers will be addressed through new AWMP requirements that include quantifying measures to increase efficiency, developing a water balance that can identify and prioritize water loss, identifying ways to improve water system management, and drought planning (see Section 3.4).

2.3.4 Reporting, Compliance Assistance, and Enforcement

Beginning in 2017, urban retail water suppliers must submit validated water loss audit reports to DWR. Those not in compliance will not be eligible for State grant and loan funding.

Upon completion of the Water Board's rulemaking related to SB 555 water loss standards in 2020, reporting, compliance assistance, and enforcement information will be available (see Section 3.1 for further detail).

2.4 Certification of Innovative Technologies for Water Conservation and Energy Efficiency

2.4.1 Need for Change

Reducing the amount of water used by appliances can result in water savings. Setting water efficiency standards can help reduce the level of water use across the State. In addition, technologies are in various states of development and deployment that aim to find underground leaks and leaks past the utility meter. As leak detection and reduction technologies advance, water loss control measures may become more cost-effective.

2.4.2 EO Directive

EO Item 7 focuses on water conservation and energy efficiency technologies, and states:

> *The California Energy Commission shall certify innovative water conservation and water loss detection and control technologies that also increase energy efficiency.*

2.4.3 Implementation

EO Item 7 builds on Executive Order B-29-15 that incentivizes promising new technology to make California more water efficient. This item directed the CEC to:

- Implement an appliance rebate program to replace inefficient household devices jointly with DWR and the Water Board.
- Adopt emergency regulations establishing standards to improve the efficiency of water appliances.
- Implement a Water Energy Technology (WET) Program to deploy innovative water management technologies.
- Expedite applications or petitions for power plant certifications to secure alternate water supply necessary for continued power plant operation by delegating, as appropriate, approval to the Executive Director.

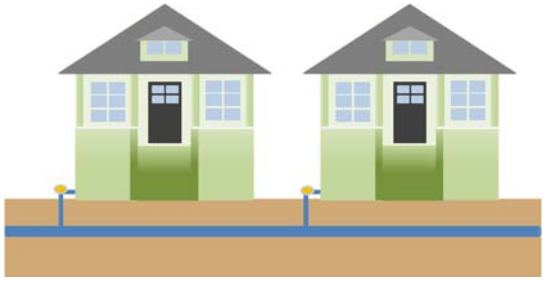
Approaches to Water Conservation and Water Loss Detection and Control Technologies

Various options for water loss detection and control are described briefly below.

Utility Level. Utility level technologies discover leaks in water distribution infrastructure prior to delivery to the customer. Some utilities have devised approaches varying from listening for the sounds from leaks to surveys from aircraft or satellites. Some utilities have begun monitoring and controlling a system's water pressure in an effort to prevent the formation of leaks and minimize water loss.

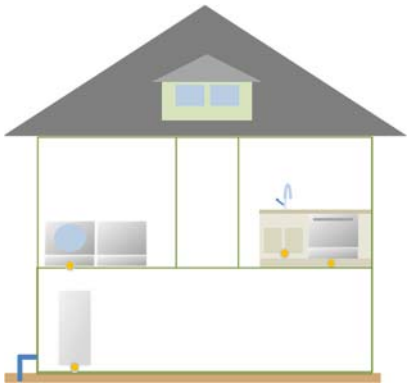
Distribution level loss detection.

House Level. Several companies are developing devices intended to monitor whole house water usage and report leaks. A typical device clamps to a house's main water supply and identifies the type of water usage by the signature of the water flow. These devices provide information to occupants via the internet.



Household level loss detection.

Appliance Level. Consumers may place a device near an appliance such as a faucet, clothes washer, water heater or dishwasher to detect leaking water. The device may alert the user through an audible alert or through a message sent to their internet connected device.



Appliance level loss detection.

CEC Research and Development Division Activities

The CEC's Electric Program Investment Charge (EPIC) Program follows an energy innovation pipeline program design, funding applied research and development, technology demonstration and deployment, and market facilitation to create new energy solutions, foster regional innovation, and bring clean energy ideas to the marketplace.

EPIC-Funded Utility Level Leak Prevention and Water Loss Detection Study. The EPIC Program is currently funding studies that will demonstrate correlating continuous acoustic monitoring, satellite imagery leak detection, district metered areas, and flow-sensitive pressure reducing valve technologies to reduce the formation of leaks and aid in the detection of leaks at four California municipal utilities. The goal is to demonstrate and improve the technologies to move them closer to commercial adoption.

CEC Efficiency Standards

Section 25402(c)(1) of the California Public Resources Code mandates that the CEC reduce the inefficient consumption of energy and water on a statewide basis by prescribing efficiency standards and other cost-effective measures for appliances that require a significant amount of energy and water to operate. Such standards must be technologically feasible and attainable and must not result in any added total cost to the consumer over the designed life of the appliance. Manufacturers must certify to the CEC that their appliances meet or exceed the applicable minimum efficiency standards.

The CEC assesses the technical feasibility of proposed standards as part of the appliance rulemaking process. Technical feasibility means determining whether technologies currently exist or will exist that can achieve the efficiency goals of the proposed standard.

In determining cost-effectiveness, the CEC considers the value of the water or energy saved, the effect on product efficacy for the consumer, and the life-cycle cost of complying with the standard to the consumer. The CEC assesses the cost effectiveness of a proposed appliance standard by surveying and comparing the cost and operation of compliant and non-compliant appliances. Any increased costs must be offset by water and energy savings due to the increase in appliance efficiency.

The CEC recently concluded a rulemaking to increase the efficiency of toilets, urinals, faucets, and showerheads that will result in saving over 150 billion gallons of water per year after full replacement. The CEC looks to further water savings by exploring appliance standards for landscape emitters and landscape irrigation controllers.

The CEC maintains a database of appliances certified by manufacturers as meeting the Appliance Efficiency Standards. The public may search the database for compliant products and use the performance data to identify appliances that use water and energy most efficiently.

Informational Proceeding Workshop. In early October 2016, the CEC conducted a public workshop to gather information on innovative water conservation and water loss detection and control technologies from industry, stakeholders, and the public.

The workshop included presentations from the Efficiency Division, the Research and Development Division, DWR, and the Water Board. The comments gathered provided viewpoints and proposed solutions related to the Commission's direction specifically, and the drought generally. Comments may be viewed at the Energy Commission Docket 16-OII-01.[8] In attendance were the California investor-owned utilities, water utilities, Plumbing Manufacturers International, and developers of water loss and leak detection

[8] Energy Commission Docket 16-0II-01, located at https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=16-OII-01.

and control technologies. The comment period closed in late October 2016.

At the workshop and in written comments, the CEC received information about a variety of water loss and leak detection and control technologies. These technologies were generally applicable at the utility level, such as automated water meters, data analytics to find apparent system losses and meter inaccuracies, acoustic monitoring systems, scanning technologies to pinpoint distribution system losses, and aerial imaging for agricultural water distribution.

The CEC will continue to evaluate technologies for water loss detection and control. To date, existing technologies are tailored for specific uses. The CEC will continue to work with EO agencies and stakeholders to provide information about innovative water loss control technologies as technologies mature and more information about their performance and use becomes available. Water loss detection and control technologies are available in both commercial and pilot forms, and different technologies may be appropriate for different systems or issues, depending on the needs and programs in place for each water district.

The CEC recommends continuing the WET program and guidance to begin investments based on workshop results and feedback. Research would support the development of test methods and device testing and could highlight successful case studies in the application of water loss and control technologies. Research could also advance innovative pre-commercial technologies that would result in water and energy savings and overcome barriers to large scale deployment.

The CEC recommends continuing to study landscape irrigation controllers and emitters for possible efficiency standards to capture significant water savings through cost-effective and technologically feasible improvements in these products. This would continue the CEC's work on drought efficiency measures to save water that the CEC began with its toilet, faucet, urinal, and showerhead standards. These standards are expected to save Californians 150 billion gallons of water each year after all inefficient products are replaced with ones that meet the standards.

The CEC recommends that it continue to have manufacturers certify and add their toilets, faucets, urinals, and showerheads to the Modernized Appliance Efficiency Database System which will help the CEC to ensure compliance with the applicable water efficiency standards while also providing a tool for individuals and businesses to search for and compare water-conserving products.

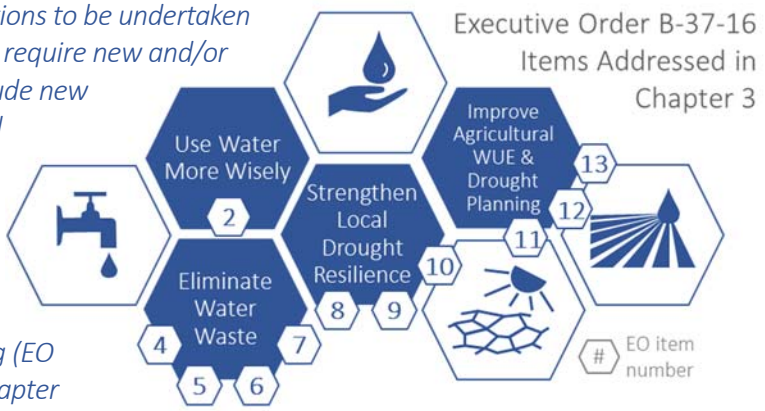
WET Program. The CEC, jointly with DWR and the Water Board, plans to implement the WET Program to provide funding to accelerate the deployment of innovative water and energy saving technologies and reduce greenhouse gas emissions.

2.4.4 Reporting, Compliance Assistance, and Enforcement

Reporting, compliance assistance, and enforcement do not apply to the actions associated with certification of innovative technologies for water conservation and energy efficiency.

Chapter 3 – Recommendations that Require New and Expanded Authorities to Implement

This chapter describes recommended actions to be undertaken to implement portions of the EO but that require new and/or expanded statutory authority. These include new water use targets based on strengthened standards (EO Items 2 and 6), water shortage contingency planning (EO Items 6, 8, and 9), drought planning for small water suppliers and rural communities (EO Item 10), and agricultural water management planning (EO Items 6, 11, 12, and 13). For each, the chapter includes: a description of the current status and need for change; the directive as stated in the EO; and a description of reporting, compliance assistance, and enforcement. A summary of implementation activities and their schedules are included in Chapter 4.



3.1 New Water Use Targets Based on Strengthened Standards

3.1.1 Current Status and Need for Change

Urban water conservation and efficiency has been a key California water management strategy over the past 25 years starting with programs implemented during or shortly after the 1988 to 1992 drought, including MWELO and plumbing code and appliance standards. In 1991, 120 urban water suppliers[9], environmental groups and other interested parties signed a historic Memorandum of Understanding (MOU) agreeing to develop and implement comprehensive water conservation Best Management Practices (BMP). The MOU called for the creation of the California Urban Water Conservation Council (CUWCC) to oversee the implementation of the BMPs. Roughly half of urban water suppliers voluntarily joined the CUWCC in 1993, and more followed since then.

The CUWCC has played a key role in the history of urban water conservation in California, successfully creating a collaborative forum for water suppliers and the environmental community to work together to advance urban water conservation throughout the State. This voluntary documentation of conservation efforts by reporting on BMPs by water suppliers has continued through 2016. In 2009, the State conditioned grant funding eligibility for urban water suppliers on compliance with demand management measures which were defined as the CUWCC's 14 BMPs. This requirement was in place until July 1, 2016 when retail urban water suppliers' eligibility for State loan and grant funding changed to compliance with the 20x2020 urban water use targets (California Water Code (CWC) Section 10608.56).

At the end of the 2007 to 2009 drought and as part of a package of legislation relating to Sacramento-San Joaquin Delta management, the State set a

[9] Urban water suppliers are defined by CWC Section 10617 as a "supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually."

statewide goal of reducing urban per capita water use by 20 percent by 2020, with a 10 percent interim goal in 2015. Known as the Water Conservation Act of 2009, SB X7-7 required urban water suppliers to calculate baseline water use and set water use targets for 2020, with interim targets by 2015. Suppliers were required to report on target compliance in their UWMPs. Urban water suppliers reported a statewide average baseline water use of 199 gallons per capita per day (GPCD) for the ten-year period from 1996 to 2005, with baseline water use amongst individual suppliers showing significant variation. The statewide interim target was 179 GPCD and the final statewide 2020 target was 159 GPCD.

SB X7-7 provided several options for how suppliers could achieve higher levels of water conservation by allowing each water supplier to choose one of four methods[10] for determining their own water use target for 2020 (and interim targets for 2015). These options were designed to address regional diversity use practices, climate, history of investment in water conservation and reductions in urban water use. SB X7-7 also permitted water suppliers to join with others to meet the targets regionally. Finally, it permitted urban water suppliers to increase the use of recycled water to meet their targets.

SB X7-7 directed DWR to develop technical methodologies and criteria to ensure the consistent implementation of the Act and to provide guidance to urban water suppliers in developing baseline and compliance water use.[11]

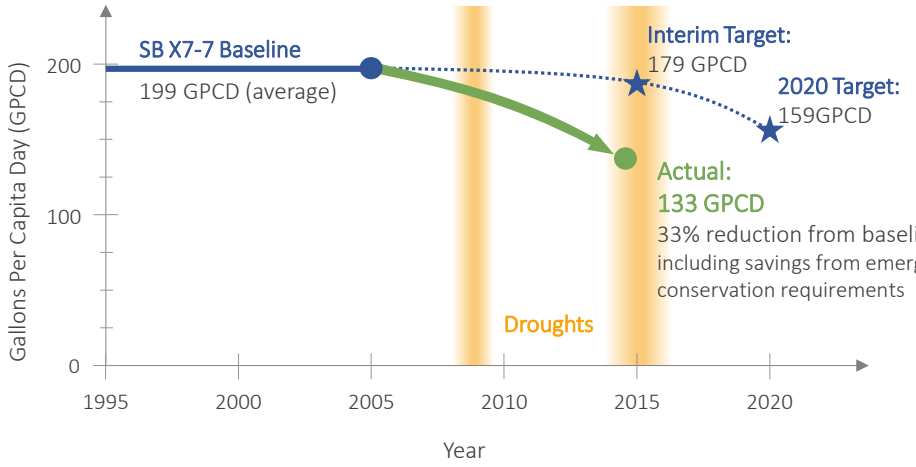
The current historical drought (2013 – 2017) has placed an even greater emphasis on urban water conservation and efficiency. In January 2014, Governor Brown issued an emergency drought proclamation, and on April 1, 2015, the Governor issued an Executive Order directing the Water Board, for the first time, to enact statewide mandatory conservation requirements to achieve a 25 percent reduction in statewide urban water use. As a result of these mandatory conservation requirements, urban water suppliers reported an average per capita water use of 133 GPCD in 2015, a 33 percent reduction from the baseline conditions for SB X7-7 implementation of 199 GPCD (see Figure 3-1). In 2013, prior to the imposition of statewide mandatory conservation requirements, DWR estimated that average statewide per capita use had already declined to about 160 GPCD, an 18 percent reduction from the SB X7-7 baseline.

The current drought has accelerated urban water conservation, exceeding 20x2020 goals well in advance of 2020. To build on the conservation and efficiency momentum achieved during the current drought, and to "make water conservation a California way of life" on a permanent basis, the EO directs the EO Agencies to develop new water use targets that go beyond the "20x2020" targets based on strengthened water use efficiency standards.

[10] As outlined in DWR's *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (2010, & updated in 2016), the four methods to set 2020 per capita water use targets are as follows:

- *Method 1*: Eighty percent of the water supplier's baseline per capita water use.
- *Method 2*: Per capita daily water use estimated using the sum of performance standards applied to indoor residential use; landscaped area water use based on MWELO; and a 10% reduction in CII water use.
- *Method 3*: Ninety-five percent of the applicable State hydrologic region target as stated in the State's April 30, 2009, draft 20x2020 Plan.
- *Method 4:* An approach developed by DWR and reported to the Legislature in February 2011 that identifies per capita targets that cumulatively result in a statewide 20-percent reduction in urban daily per capita water use by December 31, 2020.

[11] DWR developed methodologies for calculating base daily per capita water use, baseline commercial, industrial, and institutional water use, compliance daily per capita water use, gross water use, service area population, indoor residential water use, and landscaped area water use. These are published in *Methodologies for Calculating Baseline and Compliance Urban Per Capita Water Use* (DWR 2010, updated in 2016).



Urban water suppliers reported an average per capita water use of 133 GPCD in 2015, a 33 percent reduction from the baseline conditions set for SB X7-7 and well below the interim target of 179 GPCD and the final target of 159 GPCD.

Figure 3-1. Conservation Targets under SB X7-7 Compared with Actual Conservation

The EO calls for new water use targets based on strengthened water use efficiency standards, rather than a percentage reduction in urban water use. This approach builds off one of the four SB X7-7 methods urban water suppliers could use to achieve their 2020 targets (Method 2). A water use efficiency standards-based approach provides several advantages when compared with other previously used percent reduction approaches in SB X7-7. Mandatory percentage reductions may be more difficult for suppliers that have already achieved a high level of efficiency and conservation, as their overall water use may be low. Further, an efficiency approach removes negative incentives for consumers to use more water than needed during normal (non-drought) conditions such that, if required to conserve due to an emergency, it would be easier to achieve reduction targets. An efficiency-based approach also recognizes supplier efforts to reduce overall water use, including indoor water use efficiency and turf-replacement programs and development of more drought resilient water supplies, such as recycled water. An efficiency standards-based approach eliminates uncertainty or inequity associated with percent reduction from a baseline.

While the Water Boards' mandatory conservation requirements were effective in reducing urban water use, those requirements function best as a short-term, interim solution. A long-term transition to conservation as a way of life must take into account the climatic, landscape, and demographic conditions unique to each supplier in a more precise manner. The approach described in this Framework will recognize the unique geographies of the State by incorporating supplier-specific climate, population, and other settings.

3.1.2 EO Directive

New water use targets based on strengthened standards address EO Item 2, which states:

> *The Department of Water Resources (Department) shall work with the Water Board to develop new water use targets as part of a permanent framework for urban water agencies. These new water use targets shall build upon the existing state law requirements that the state achieve a 20% reduction in urban water usage by 2020. (Senate Bill No. 7 (7th Extraordinary Session, 2009-2010)). These water use targets shall be customized to the unique conditions of each water agency, shall generate more statewide conservation than existing requirements, and shall be based on strengthened standards for:*
>
> *a. Indoor residential per capita water use;*

b. *Outdoor irrigation, in a manner that incorporates landscape area, local climate, and new satellite imagery data;*

c. *Commercial, industrial and institutional water use; and*

d. *Water lost through leaks.*

The Department [DWR] and Water Board shall consult with urban water suppliers, local governments, environmental groups, and other partners to develop these water use targets and shall publicly issue a proposed draft framework by January 10, 2017.

EO Item 6, which addresses data collection and improved water system management, also relates to the implementation of new targets and standards directed in EO Item 2. EO Item 6 states:

The Water Board and the Department [DWR] shall direct urban and agricultural water suppliers to accelerate their data collection, improve water system management, and prioritize capital projects to reduce water waste.

See also Table 1-1 in Chapter 1 for a summary of the relationship between the EO items described in this chapter.

3.1.3 Recommendations

The EO Agencies recognize that improved water use efficiency on a statewide scale will take time, and recommend setting interim targets until refined standards are adopted no later than 2021, with a path of increasing progress toward achieving final compliance in 2025. This will allow time for the EO Agencies to collect data sufficient for establishing new standards, and allow water suppliers and users to plan for and adjust to the change in approach. The EO Agencies will identify and formally adopt (revised) final standards no later than 2021. Retail urban water suppliers would then calculate new water use targets, with the goal of achieving full compliance with the final standards by 2025.

The standards recommended by the EO Agencies encompass residential indoor water use, outdoor irrigation water use, water system losses, and commercial, industrial and institutional uses. The EO Agencies anticipate that the greatest water efficiency savings will be achieved through changes in outdoor landscape water use, due to the relatively high use of water in this sector compared with others.

The following describes the standards framework, and the processes needed to implement the water use target directive. The discussion is divided into three parts: (1) the process for setting a water use target, (2) the process for setting standards (including provisional outdoor and indoor water use, water loss, and commercial and industrial measures), and (3) a summary of the anticipated schedule for water use standards development.

In support of water conservation, the legislature has, through CWC Section 1011, deemed reductions in water use due to conservation as equivalent to reasonable beneficial use of that water. The proposals in this report are not intended to affect or otherwise limit any rights to water conserved under applicable law, including without limitation, water conserved consistent with CWC Section 1011.

In addition, the California Water Action Plan calls for increasing the use of recycled water as part of the State's larger strategy to develop a more resilient water supply and increase regional self-reliance. It is therefore imperative that new water use targets be compatible with the goal of expanding recycled water supplies. The proposed efficiency standards would allow higher water application volumes for outdoor use of non-potable recycled water to provide an incentive for its use. The EO agencies are proposing that water suppliers that utilize recycled, for either potable or non-potable uses, continue to be incentivized within the targets or through their implementation.

Setting a Water Use Target

Under the EO Agencies' proposed framework, each retail urban water supplier will be required to annually calculate an overall water use target and implement commercial, industrial, and institutional (CII) performance-based measures. The proposed target framework recommendations are specific to retail urban water suppliers and the recommendations are not intended to apply to wholesale urban water suppliers.

The EO Agencies' proposed framework improves on the SB X7-7 Method 2 approach, but differs in several respects. First, under SB X7-7 Method 2, the water use target was the sum of an indoor and outdoor performance based standard and a 10 percent reduction in CII water use, and water loss was not addressed. Under the proposed framework, water loss is now included as part of the supplier's Water Use Target. Given the substantial diversity in businesses and institutions throughout California, a better approach to the CII sector would be to institute performance measures rather than a volumetric standard or budget, at this time. Data collection associated with the CII performance measures may support industry standards and volumetric approaches in the future.

The water use targets will be calculated as the sum of a retail supplier's residential indoor, outdoor irrigation, and distribution system water loss budgets. Each of these budgets is calculated through the application of a water use efficiency standard, described later in this section.

Indoor Water Use Budget + Outdoor Water Use Budget + Water Loss Budget = Supplier Water Use Target

Compliance will be based on the supplier's total water use target, rather than on the individual budgets. Interim targets based on residential indoor and outdoor standards will be set by water suppliers in 2018, and final targets based on indoor, outdoor and water loss standards will set by water suppliers in 2021. The interim targets will be gradually reduced over time to create a path of increasing progress toward achieving final compliance in 2025. Water suppliers that are not on track to meet interim or final standards-based targets may be provided with additional compliance assistance and/or face enforcement actions from the Water Board.

The following provides an example water use target calculation using hypothetical budgets for residential indoor water use, outdoor irrigation water use, and distribution system water loss. For illustrative purposes, the budgets are presented in three units: gallons per capita per day (GPCD), acre-feet, and centrum cubic feet (CCF).

Example Water Use Target Calculation

Sector	Budget[1] (GPCD)	Budget Volume (acre-feet)	(CCF)
Residential Indoor Water Use	55	10,492	4,570,315
Outdoor Irrigation Water Use	45	8,584	3,739,190
Water Loss	6	1,144	498,326
Target	**106**	**20,220**	**8,830,380**

Notes:
1. Budget calculations based on the following:
   Service area population = 170,319
   Days per year = 365

Water suppliers will also calculate compliance volume by subtracting water delivered to the CII sector from total water production:

Compliance Volume = Total Water Production - CII Deliveries

On the following page is an example compliance volume calculation for a hypothetical water supplier. To be in full compliance, (1) the water supplier's compliance volume must be less than or equal to the water use target, and (2) the supplier must document full implementation of the CII

performance measures (as described more fully later in this section).

Example Compliance Volume Calculation

Supplier's Water Use:

Total water production:	26,136 acre-feet
CII deliveries:	7,240 acre-feet
Target (see prior example):	20,220 acre-feet

Compliance volume = total production – CII deliveries

= 26,136 – 7,240

= 18,896 acre-feet

The supplier is in compliance because the compliance volume of 18,896 acre-feet is less than the water use target of 20,220 acre-feet.

A supplier's water use target will change each year because, although the standards are set, the targets are based on variable metrics (population, landscape area, evapotranspiration) that change from year to year. Consequently, post-submittal changes or adjustments will not be needed to account for weather or other factors. The process and methodology for setting the standards is described in the following section.

Setting Water Use Efficiency Standards

The following describes the recommended provisional standards for residential indoor water use, outdoor irrigation, and distribution system water loss, and the performance measures standard for CII water use.

Residential Indoor Water Use Standard

This standard is defined as the volume of residential indoor water used by each person per day, expressed in GPCD. The indoor residential standard will be used to calculate the residential indoor budget of a supplier's water use target, which is a function of the total service area population.

For example:

Residential Indoor Water Use Budget = (Service area population) x (residential indoor standard) x (number of days in a year)

Until the 2025 standard for residential indoor water use is established, the existing 55 GPCD standard based on SB X7-7[12] will apply.

A recent national study[13] conducted by the Water Research Foundation suggests that the national residential indoor water use average is about 59 GPCD. Many experts believe California's average residential indoor use to be lower. DWR is currently conducting a study to estimate average statewide residential indoor GPCD. A DWR-commissioned study[14] to support the standard development suggests that compliance with the provisional residential indoor water use standards could likely be facilitated through plumbing code changes and continued appliance replacements with higher efficiency units. This study suggests that the effects of toilet replacement through SB 407[15] and continued enforcement of federal clothes washing machine water use efficiency standards would lower residential indoor water use by roughly 6 GPCD by 2030 and by 9 GPCD by 2040. This estimated level of reduction is generally consistent across all counties in California.

DWR and the Water Board will continue gathering additional data on current indoor water use to support future revisions of the existing standard downward to reflect the increased use of efficient fixtures and appliances. The updated standards will be available in 2018, with a timeline for interim and final compliance by 2025. Afterward, the EO

[12] SB X7-7 defined 55 GPCD as a provisional standard for residential indoor water use. See CWC Section 19608.20(b)(2)(A).

[13] Water Research Foundation (2016). Residential End Uses of Water Study, Version 2: Executive Report.

[14] Mitchell, D., 2016. Projected Statewide and County-Level Effects of Plumbing Codes and Appliance Standards on Indoor GPCD, for Department of Water Resources, August.

[15] California Civil Code Section 1101 et seq.

Agencies will reevaluate the standard for potential revision every five years, beginning in 2025.

Outdoor Irrigation Standard

The proposed outdoor irrigation water use standard will be defined as percentage of reference evapotranspiration (ETo). ETo is an estimate of the evapotranspiration[16] of well-watered cool season grass and is expressed in inches of water per day, month, or year. ETo will vary across the State based on climatic factors such as solar radiation, temperature, humidity and wind. Landscape water requirements are expressed as a percentage of ETo and encompass the plant water requirements and the irrigation system efficiency. Lawns and recreational fields can require 100% of ETo or greater while low water use landscapes can require 20 to 30% of ETo. The outdoor irrigation standard will be a fraction of ETo.

Table 3-1 shows the existing SB X7-7 standards (Method 2[17]) for outdoor water use. These existing, provisional standards will guide and assist water suppliers in their outdoor water use planning efforts until such time as the EO Agencies identify and adopt final standards (as described later in this section).

Table 3-1 Existing SB X7-7 Standards for Outdoor Water Use

Category		% of ETo
Residential Landscape by Parcel Development Date	Before 2010	0.8
	Between 2010 and 2015	0.7
	After 2015	0.55
Commercial Landscape		0.45
Landscapes Irrigated by Recycled Water		1.0
Special Landscape Areas (e.g., Parks and Fields)		1.0

Note that irrigation use for commercial properties without a dedicated account or meter will be subject to the CII performance measures, as described later.

For the purpose of the provisional standards displayed in Table 3-1, areas irrigated with recycled water are considered special landscape areas and assigned an Evapotranspiration Adjustment Factor (ETAF) of 1.0, recognizing the higher salinity levels of recycled water. The EO Agencies will review local community characteristics and consider how the proposed efficiency standards can best reflect local variances in geography and climate when developing the permanent standards by 2021. The EO Agencies' consideration will be based on lessons learned from the land use pilot project and on data received following implementation of interim targets in 2018.

[16] Evapotranspiration is the quantity of water evaporated from adjacent soil and other surfaces and transpired by plants.

[17] In describing Method 2, CWC Section 10608.2 (b)(2) specifies that the 2020 per capita water use target is, "The per capita daily water use that is estimated using the sum of the following performance standards:

(A) For indoor residential water use, 55 gallons per capita daily water use as a provisional standard. Upon completion of the department's 2016 report to the Legislature pursuant to Section 10608.42, this standard may be adjusted by the Legislature by statute.

(B) For landscape irrigated through dedicated or residential meters or connections, water efficiency equivalent to the standards of the Model Water Efficiency Landscape Ordinance set forth in Chapter 2.7 (commencing with Section 490) of Division 2 of Title 23 of the California Code of Regulations, as in effect the later of, the year of the landscape's installation or 1992. An urban retail water supplier using the approach specified in this subparagraph shall use satellite imagery, site visits, or other best available technology to develop an accurate estimate of landscaped areas.

(C) For CII uses, a 10-percent reduction in water use from the baseline CII water use by 2020."

The total outdoor water use budget for a water supplier is calculated as the sum of the individual budgets for all categories of outdoor water use within its service area. Because ETo and landscape area can change from year to year, the resulting outdoor water use budget also changes.

As described previously, the outdoor irrigation budget is calculated based on the landscape area within a water supplier's service area. Currently, few water suppliers have measured or collected data on the landscape area within their service area. To facilitate the transition to the new standards-based approach, the EO Agencies will develop landscape area estimates for each urban retail water supplier in the State. The State's landscape area measurement project will focus on the water supplier service aggregate landscape area. Suppliers may contract with the vendors individually to obtain parcel level landscape area measurements.

The EO Agencies will develop landscape area data in several steps. First, the EO Agencies will form an urban landscape area workgroup to provide technical guidance and input on this project. This work will include developing definitions for irrigated and irrigable landscape area. Next, pilot projects will be conducted to ensure that the process used for measuring landscape area is accurate. The landscape area workgroup will also provide input and guidance in reviewing the pilot projects' results. Accuracy assessments will be conducted for each of the pilot projects.

Based on lessons learned from the pilot projects, the EO Agencies will measure the landscape area for the remaining urban retail water suppliers. It is anticipated that this statewide landscape area measurement project will be completed in 2018. At the end of the project, in 2018, the service area landscape area data will be made available to water suppliers.

Using both the supplier service area landscape area data measured in the pilot and statewide projects and water suppliers' aggregate water delivery data, the EO Agencies will estimate service area, regional, and State average applied irrigation water levels. There will be ample opportunity for public input and workgroups to help shape this implementation going forward, and DWR will also consider data provided by water agencies.

In 2018, using the statewide estimates of applied irrigation water use, DWR and/or the Water Board will evaluate the existing SB X7-7 outdoor water use standards (Table 3-1) and develop final recommended standards that would begin to be phased in starting in 2018 and need to be fully applied by 2025. At this time, in setting the landscape standards the EO Agencies will determine whether the irrigated landscape area or the irrigable (developed landscape area that could be irrigated) landscape area is used as the basis for the standard. The EO Agencies will also reevaluate the inclusion of recycled water in the outdoor water use standard. The final outdoor standards will be set to increase the efficiency of outdoor water use and achieve water savings beyond SB X7-7 implementation.

By 2021 the EO Agencies will adopt the final outdoor landscape standards. Starting with 2021 (reported on in 2022), urban water suppliers must start showing sufficient progress towards meeting the water use targets based on the 2025 standards. Water suppliers will be required to meet their water use targets by 2025.

Every five years thereafter, the EO Agencies will review the outdoor water use standard; at these times, they may consider further reducing the ETAFs for some or all categories, or making other adjustments to the standard and budget calculation. Landscape area data will also be updated periodically.

Distribution System Water Loss Standard

The standard for water system loss will be established through the SB 555 process[18] and may be expressed as volume per capita or volume per connection, accounting for relevant factors such as infrastructure age and condition. The water loss standards will include system losses and leaks, as well as other non-revenue water used for system maintenance and public safety purposes.

Per SB 555, the Water Board will establish the water loss standard by 2020 for compliance in 2025. The Water Board will reevaluate the water loss standard for potential update every five years, beginning in 2025.

Commercial, Industrial, and Institutional Performance Measures

There is substantial diversity in businesses and institutions throughout California, resulting in a wide range of water use within the commercial, industrial, and institutional sector. Consequently, the EO Agencies will not establish a volumetric standard and budget for CII water use at this time. Instead, CII water suppliers will be required to implement the following three performance measures:

1. Convert all landscapes over a specified size threshold that are served by a mixed-meter CII account to dedicated irrigation accounts, either through the installation of a separate landscape meter or the use of equivalent technology.

2. Classify all CII accounts using the North American Industry Classification System (or another similar classification system selected by the EO Agencies). Where feasible, CII subsector benchmarks will be developed to assist water suppliers in identifying CII accounts with the potential for water use efficiency improvements.

3. Conduct water use audits or prepare water management plans for CII accounts over a specified size, volume, or percentage threshold.

By December of 2018, the EO Agencies would develop regulations and guidelines for the implementation of the CII performance measures. This guidance will include methods for classifying CII accounts, landscape size thresholds for dedicated metering, direction on implementing CII water audits, and guidance for preparing water management plans. The regulation and guidelines will be established through a public process, with the advice and input of a new CII workgroup to be established by the EO Agencies. Every five years, the EO Agencies will review the outcomes of performance measure implementation and consider updates, if appropriate. In the future, the EO Agencies may consider establishing industry-specific benchmarks or other means to improve water use efficiency in the CII sector.

Schedule for Water Use Standards Development, Review and Revision

The timeline on the following page summarizes anticipated EO Agencies actions and schedule for developing, reviewing, applying, and revising the water use standards.

[18] See Section 4.3 of this report for information on SB 555, water loss audits, and water loss standards.

Water Use Standards Development Timeline

2017
- DWR completes pilot projects on landscape area measurements

2018
- DWR completes statewide landscape area measurements to support development of outdoor landscape standard
- EO Agencies estimates service area, regional, and State average applied irrigation levels
- EO Agencies recommend final 2025 compliance standards for indoor and outdoor water use
- EO Agencies set provisional indoor and outdoor residential standards, and water suppliers set interim targets
- EO Agencies develop regulations and guidelines for the implementation of CII performance measures
- DWR provides urban water suppliers with the service area landscape area data

2019
- EO Agencies provide guidance and methodologies for all standards

2020
- EO Agencies complete rulemaking and adopt final 2025 water loss standards

2021
- EO Agencies complete rulemaking and adopt final 2025 indoor and outdoor standards

2025
- EO Agencies review and consider updates to the standards, starting in 2025 and every five years thereafter; revisions will follow the requirements for rulemaking and provide opportunity for public comment and input

3.1.4 Reporting, Compliance Assistance, and Enforcement

Specific reporting and compliance dates are subject to EO Agencies requisite actions as described above. Compliance dates would be extended as necessary to accommodate any serious delays in completion of those actions.

Reporting

Beginning in 2019, water suppliers must submit annual progress reports for residential water use, and implementation of the recommended CII performance measures.

Starting in 2022, the annual progress report for the prior year will address all water use standards and will include the following three elements:

1. Calculation of progress towards meeting the water use standards based on prior year target developed using 2025 standards and annual production data.
2. Documentation of CII performance measures implementation.
3. A narrative description of refined actions to be taken by the supplier to ensure compliance by 2025.

Water suppliers will submit annual progress reports every year from 2022 through 2025, documenting annual water production relative to the water use targets and CII performance measure implementation for the previous year. In 2026, water suppliers will submit a concluding annual compliance report documenting accomplishments and outcomes in complying with the 2025 water use targets.

Suppliers will continue to submit annual compliance reports in 2026 and thereafter, repeating the 5-year reporting cycle and using updated standards adopted by the EO Agencies, as applicable. Additionally, suppliers will continue to submit monthly and annual water use data, per existing requirements.

The 5-year cycle for water suppliers to update their UWMPs is similar to the 5-year cycle for the EO Agencies to update the water use standards; it is expected that updated standards will be available six months to a year prior to the July deadline for submitting UWMPs. Reporting in future UWMP updates will, therefore, incorporate the water use efficiency standards and supplier accomplishments in meeting them.

Assistance and Compliance

The EO Agencies propose that compliance will be assessed on total water use in comparison to a supplier's total water use target, rather than on the individual water budgets by sector (indoor, outdoor, and water loss). Full compliance will be met when the supplier's total water use is less than or equal to the standard, and the supplier has implemented the CII performance measures.

The EO Agencies will review the monthly and annual reports and data submitted by water suppliers for completeness and progress in achieving interim targets starting in 2018 and compliance with final targets by 2025. Where necessary, DWR or the Water Board may provide feedback, direction, or suggestions for water suppliers to improve their compliance and progress. The Water Board may also issue formal Enforcement or Informational Orders to suppliers not on track to meet interim or final targets, as explained below under *Enforcement*.

DWR will provide technical assistance to suppliers in preparing their annual progress reports and will continue to revise UWMP guidance, as needed, to reflect updated standards and water use compliance requirements. The EO Agencies will actively communicate the need for the water use standards and their implementation through public outreach and engagement, sharing the responsibility for public education with water suppliers.

Water suppliers must be in compliance with the new standards-based water use targets by 2025 to be eligible for State grant and loan funding.

Enforcement

Water suppliers that are not in compliance with the new standards-based water use targets by 2025 may be provided with additional compliance assistance and/or face enforcement actions from the Water Board. This could include:

- Informational orders
- Conservation orders
- Cease and desist orders
- Administrative civil liability penalties (such as fines)

The EO Agencies will conduct enforcement only at the retail supplier level, not at the individual customer level, based on compliance with the total water use target for the entire service area and associated performance measures for CII water use. Water suppliers may implement discretionary actions of their choosing on individual water accounts or users to ensure that their overall water use efficiency targets are met.

Water suppliers are required to continue submitting monthly water use reports to the Water Board for their water use, amount of conservation achieved, and any enforcement efforts, as directed in EO Item 3.

Water suppliers failing to submit annual reports for standard compliance, UWMPs, or monthly reports for water use per the schedule will be subject to earlier enforcement action.

MWELO Updates and Standards

DWR may consider updating the MWELO to better align the model ordinance language with the water use efficiency standards. Better alignment will provide land use agencies with tools to implement complementary actions that assist water suppliers in complying with the standards.

3.2 Water Shortage Contingency Plans

3.2.1 Current Status and Need for Change

Current Status

Current statutes direct urban suppliers[19] to provide a water shortage contingency analysis as a component of their UWMPs, which are updated every five years. Some urban water suppliers have exceeded the existing shortage contingency analysis requirements, documenting them in official WSCPs; these plans are used to satisfy the UWMP requirements submitted to DWR. However, this is not a requirement under current guidance[20], and suppliers have used varying assumptions in their analyses. Consequently, WSCPs are varied in their form, approach, and functionality, in part due to the lack of statewide standards.

Need for Change

During the on-going historical drought, some water suppliers that had inadequately assessed the risk of water shortage were unprepared to effectively respond to the realized supply shortages. However, many other suppliers showed high levels of resiliency due to their adequate planning and well-defined contingency actions.

Supplier experiences during the current drought have prompted the need to elevate water shortage contingency planning for urban water suppliers throughout the State. Water shortage contingency planning is important because water shortages can affect the basic health and safety of California residents. It can also be very costly for both the State and local communities to engage in last minute, emergency efforts to alleviate water supply crises when they happen.

Urban water suppliers should evaluate the potential impacts on their water supplies considering the full range of plausible water supply and demand conditions in order to properly assess their potential risk and exposure to shortage in frequency, severity, and potential consequences. Each water supplier establishes its accepted tolerance for risk that varies based on many intertwined technical, legal, economic, and political considerations. It is critical that water suppliers inform their customers of the accepted risk and potential consequences.

As these factors are often changing, a supplier must diligently assess them in a manner that allows confident management in accordance with its risk tolerance.

3.2.2 EO Directive

The water shortage contingency planning discussed in this section focuses on the requirements for DWR to develop measures to strengthen local drought resilience. Specifically, EO Items 8 and 9 state:

8. *The Department [DWR] shall strengthen requirements for urban Water Shortage Contingency Plans, which urban water agencies are required to maintain. These updated requirements shall include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. While remaining customized according to local conditions, the updated requirements shall also create common statewide standards so that these plans can be quickly utilized during this and any future droughts.*

9. *The Department [DWR] shall consult with urban water suppliers, local governments, environmental groups, and other partners*

[19] UWMPs are only prepared by urban water suppliers, defined as a "supplier, either publicly or privately owned, providing water for municipal purposes either directly or indirectly to more than 3,000 customers or supplying more than 3,000 acre-feet of water annually" (CWC Section 10617). According to DWR, there are approximately 440 wholesale and retail urban water suppliers in the State that must prepare UWMPs.

[20] 2015 Urban Water Management Plan: Guidebook for Urban Water Suppliers, DWR, January 2016.

to update requirements for Water Shortage Contingency Plans. The updated draft requirements shall be publicly released by January 10, 2017.

EO Item 6, which relates to accelerated data collection for urban water suppliers, also has ties to EO Items 8 and 9, above. See also Table 1.1 in Chapter 1.

3.2.3 Recommendations

DWR recommends strengthening local drought resilience through improved planning and annual assessments. In addition, the proposed planning and assessment methods will allow for local control in defining the risk tolerance, with improvements in information dissemination to both customers and the State during drought conditions. This could lead to reductions in long-term impacts on customers in the wake of more frequent and severe drought conditions under climate change.

The EO Agencies established the following primary objectives in the design of the recommendations:

- Assure that an urban water supplier has adequately planned for, and can quickly respond with adequate, pre-determined actions, to droughts lasting at least five years, as well as during more frequent and severe periods of drought; and

- Provide DWR with information necessary to evaluate specific urban supplier responses throughout the State to drought conditions, to allow focused attention where necessary and forestall overarching mandates that may conflict with existing adequate local plans and responses.

To achieve these objectives, DWR recommends the following requirements for urban water suppliers and EO Agencies:

Wholesale and Retail Urban Water Suppliers

Each wholesale and retail urban water supplier will prepare a Drought Risk Assessment that evaluates plausible worst-case supply conditions for a period of at least five years. These will be reported in the UWMP.

Updated Contents of the Urban Water Management Plans

Updated contents for suppliers' UWMPs include the following:

1. 5-Year Drought Risk Assessment – Define the methodology, data requirements, and basis for one or more plausible supply shortage conditions necessary to conduct a 5–year drought risk assessment that examines shortage risks for the next five or more consecutive years. Drought resilient, hydrologically independent supplies such as potable reuse, recycled water, and desalination are considered fully reliable under all historical drought hydrology and plausible climate change effects, and should be considered.

2. Evaluation Criteria – Define a set of evaluation criteria that will be used to conduct the 5-year drought risk assessment. The evaluation criteria will be locally applicable and include, but not be limited to, the following factors:

    a) Historical drought hydrology

    b) Plausible climate change effects for existing supplies and demands (e.g. precipitation or ETo changes)

    c) Plausible regulatory changes that can affect existing supplies and demands (e.g., Water Use Efficiency emergency regulations)

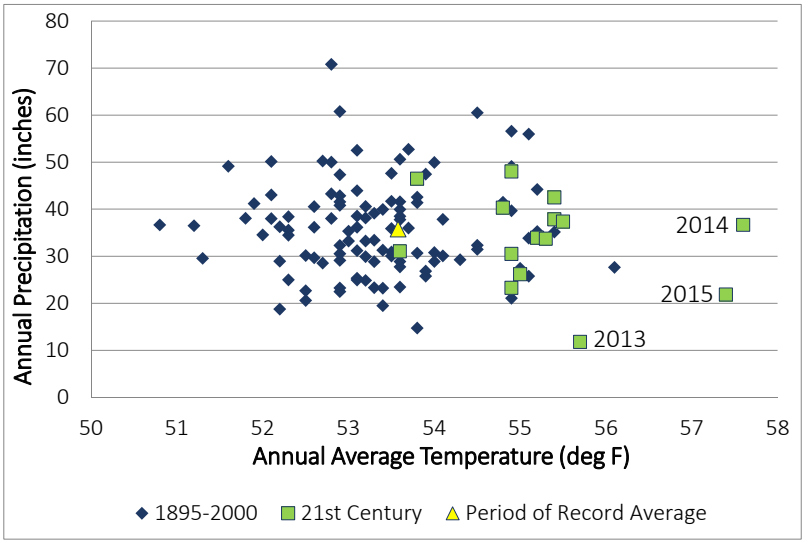
    d) Demand projections

3. Conduct a Drought Risk Assessment – Suppliers will conduct a drought risk assessment at a minimum of every five years, per the procedures set forth in the urban water management plan.

Each urban water supplier will prepare and adopt an updated WSCP and submit it to DWR for review as part of the UWMP. A key component of the

WSCP will be establishing the methodologies, data requirements, and policy considerations for an annual assessment of shortage risks in the current year plus one or more dry years. Following the procedures detailed in the adopted WSCP, the supplier will annually assess its actual or potential water shortage condition, respond accordingly, and report pertinent information to DWR.

When developing a WSCP, water suppliers should consider the potential risks associated with climate conditions that are outside of the historical norm. As evidenced in the graphic below for the Sacramento River Basin, the recent drought (shown in data points for 2013, 2014, and 2015) is unusually warm and dry relative to other data in the period of record.



Source: NOAA Climate Division Site Calendar Year Data, compiled by Michael Anderson, DWR Climatologist

Contents of the Water Shortage Contingency Plan

The supplier's WSCP must provide details for each of the following standard sections:

1. Annual Water Budget Forecast Procedures – Define the process, data inputs, and water year schedule to generate the Annual Water Budget Forecast.

2. Annual Water Budget Assessment Methodology – Define the methodology necessary to conduct an Annual Water Budget Forecast assessing shortage risks for the current year and one or more dry year(s), assuming a dry year triggers Shortage Response Actions.

3. Annual Water Budget Evaluation Criteria – Define a set of evaluation criteria that will be used to conduct the Water Budget Forecast. The evaluation criteria will be locally applicable and include, but not be limited to these factors:

   a) Current year unconstrained demand, considering weather, growth or other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.

   b) Current year available supply, considering hydrologic and regulatory conditions in the current year and an additional dry year, as appropriate for the current supply sources.

   c) Existing infrastructure and operational capabilities and plausible constraints.

4. Shortage Levels – WSCPs must include six standard shortage levels, representing the actual shortage, or predicted shortage determined by the Annual Water Budget Forecast, defined as:

   - Shortage Level 1: Up to 10 percent shortage
   - Shortage Level 2: Up to 20 percent shortage
   - Shortage Level 3: Up to 30 percent shortage
   - Shortage Level 4: Up to 40 percent shortage
   - Shortage Level 5: Up to 50 percent shortage
   - Shortage Level 6: Greater than 50 percent shortage

5. Shortage Response Actions (SRA) – For each Shortage Level, define a progressive series of SRAs that include a locally appropriate mix of short-term water efficiency and/or demand reduction actions, supply augmentation, and/or operational changes necessary to respond to actual or predicted shortage conditions. The SRAs must include actions necessary to respond to shortages.

6. Communication Plan – Describe the planned communications approach and anticipated actions intended to quickly inform customers, the public, and regional and State interests, about current shortages or predicted shortages as determined by the Water Budget Forecast, expected implementation of SRAs, and other necessary communications.

7. Customer Compliance, Enforcement, and Appeal/Exemption Procedures – Describe methods and procedures in place to (1) gain customer compliance with triggered SRAs – especially with actions requiring mandatory demand reductions, (2) enable enforcement to assure compliance, and (3) enable a customer appeal/exemption process that allows unique circumstances to be accommodated.

8. Implementation Authorities – Demonstrate that necessary authorities are in place to quickly implement SRAs. Identify specific ordinances, resolutions, or other authorities, and address compliance with CWC Section 350 et seq. Should a water supplier enter into Shortage Level 4 or higher, as described herein, there should be a water shortage emergency declaration and all appropriate actions described in CWC Section 350 et seq., must be implemented. Should SRA's be sufficient to effectively move the water supplier out of a shortage condition there may be no need for an emergency declaration.

9. Financial Plan for Drought Conditions – Describe management of revenue and expense variances when SRAs are triggered, including but not limited to, customer rate adjustments, or use of financial reserves. Specifically describe compliance with SB 814 (CWC Section 365 et seq.).

10. Monitoring and Reporting Requirements and Procedures – Outline internal and external monitoring and reporting procedures to assure appropriate data are being collected, tracked, and analyzed for purposes of monitoring customer compliance, and to meet DWR reporting requirements.

11. Re-evaluation and Improvement Process – Identify procedures for monitoring and systematically evaluating the functionality of a WSCP to assure shortage risk tolerance is adequate, and appropriate mitigation strategies are available.

Implementing Water Shortage Contingency Plans

As articulated in the WSCP, the supplier will follow its prescribed procedures to assess current year and one or more dry year water supply reliability conditions. Specifically, the supplier will:

1. Annually conduct a Water Budget Forecast per the procedures set forth in the WSCP.

2. Depending on the results of the Water Budget Forecast, appropriate SRAs will be triggered corresponding to the projected Shortage Level.

EO Agencies

The EO Agencies will set forth planning and reporting criteria, evaluate submitted data, support compliance and enforcement, and provide technical assistance. The EO Agencies anticipate that suppliers that conduct thorough shortage planning will continue to do so under the new requirements, while those that do not will be prompted to improve their planning to levels that limit or eliminate the need for State intervention in drought response.

DWR would take the following types of actions:

1. Prepare Compliance Criteria – DWR would prepare necessary documents (and regulations, if necessary) detailing the WSCP and annual assessment compliance criteria that must be met by water suppliers. The criteria will include articulating the necessary data and information that must be submitted by suppliers (1) every five years, and (2) annually. Failure to comply will result in to-be-defined enforcement measures.

2. Develop Information Submittal Tools – DWR would prepare new or augment existing reporting procedures and websites to facilitate supplier reporting. Existing requirements for data and information reporting will be utilized where feasible in order to minimize additional reporting burdens on suppliers.

3. Evaluate Statewide Water Supply Conditions – On an as-needed basis, DWR would assess regional and statewide water supply conditions – such as those created by prolonged or severe hydrologic drought – to understand the likelihood and degree that urban suppliers would be implementing SRAs.

4. Review and Assess Supplier-Reported Information – DWR would review supplier-specific data and information submitted for compliance with stated criteria. The review will also allow DWR to evaluate local shortage conditions compared to the statewide water supply conditions, and prepare necessary reports for the Governor's Office and the Legislature.

5. Compliance and Enforcement – A key factor to strengthen local drought resilience is to hold suppliers accountable for being prepared to quickly respond to long-lasting and potentially more frequent and severe supply shortages. By requiring suppliers to submit adopted WSCPs and perform and submit annual assessments, the EO Agencies will have supplier-specific information that can be used to assess compliance with overall objectives. As part of recommendations, the State would define the compliance assistance and enforcement protocols.

6. Technical and Financial Assistance – To facilitate improved drought planning for all urban water suppliers, the EO Agencies would continue to offer technical and financial assistance through various existing programs and seek additional funding. Additionally, DWR would update its 2008 Drought Guidebook to incorporate the strengthened WSCP recommendations, provide further details for the recommended components and definitions, provide example drought risk assessment methods and supply shortage scenarios, and suggest various SRAs.

3.2.4 Reporting, Compliance Assistance, and Enforcement

The reporting and compliance processes described in this section will result in transparent communication of effective planning by local water suppliers and will provide the EO Agencies with an effective monitoring tool. The end result of data reporting and collection should be in a data exchange system with a public-facing GIS application that allows policy makers, water managers, and the public to view actual or predicted shortage conditions and SRAs in any part of the State.

The water supplier will follow the reporting procedures set forth in its WSCP and UWMP. The following reporting cycle is anticipated:

- Every five years
  - Submit the adopted WSCP to DWR, including the associated Drought Risk Assessment in the UWMP and supporting data.
  - Make the WSCP available to customers (website, hardcopy at desk).

- Annually
  - Submit Water Budget Forecast results and selected SRAs to DWR in May of each year, including an indication of the shortage reduction anticipated to occur with the selected SRAs.
  - Communicate Water Budget Forecast results and selected SRAs to customers (website, hardcopy at desk).

DWR would review submitted data for completeness and adequacy, using criteria to be developed by DWR, in consultation with the Water Board and CPUC, for further assistance and potential enforcement actions, where applicable. The Water Board may need expanded authority for full compliance actions. DWR will receive the WSCPs and the associated reports and make them available to the public.

3.3 Drought Planning for Small Water Suppliers and Rural Communities

3.3.1 Current Status and Need for Change

Current Status

Small water suppliers and rural communities are not covered by established water shortage planning requirements, which apply to large urban water suppliers and larger agricultural suppliers (see sections 3.2 and 3.4). Often, small suppliers and rural communities lack resources and mechanisms to compel drought planning efforts. Drought planning helps to identify potential shortage conditions and justify local expenditures and measures to provide sufficient safe water.

Counties have legal and fiduciary responsibilities to assist with the general well-being of their citizens and provide for the health and safety of their citizens; they are, however, limited in enforcing any water curtailment or conservation policies. Currently most counties do not address water shortages or do so minimally in their General Plan or the Hazard Mitigation Plan. Since a water shortage is an emergency, a drought plan should be contained in a Hazard Mitigation Plan.

Many State agencies have regulatory responsibilities and technical and financial assistance programs targeting rural communities and small water suppliers. Examples include the Water Board's Division of Drinking Water and their requirements for safety consideration of public water systems, and CPUC's jurisdiction over small investor-owned utilities on their operation and maintenance.

In addition, SGMA could have significant effects on management and long-term water supply reliability. SGMA applies to 127 high and medium-priority groundwater basins (as defined by DWR's California Statewide Groundwater Elevation Monitoring, or CASGEM, program). Any local agency that has water supply, water management, or land use responsibilities within a groundwater basin may elect to be a "groundwater sustainability agency" (GSA) for that basin. However, if a basin (or portion thereof) is not within the management area of a GSA, the county within which the basin is located will be presumed to be the GSA for that basin or portion. The county, when preparing a water shortage or drought plan, should work with applicable GSA(s) to coordinate appropriate drought planning and response measures. If the county declines its SGMA responsibilities, leaving unmanaged areas in a high or medium-priority basins, the State may be required to intervene and directly manage groundwater resources in the basin.

Need for Change

The ongoing drought has brought attention to the reality that many small water suppliers and rural communities are struggling to meet demands with significantly reduced water supplies – or even running out of water altogether.

The fundamental difference in customer relationships and access to resources between large and small water suppliers, self-supplied

systems and counties requires unique approaches to facilitating improved drought planning.

California became the first state to legally recognize the human right to water with the signing of AB 685 in September 2012. This law aims to ensure universal access to safe, clean, affordable, and accessible water. When communities run out of water, State and local emergency measures must be taken and these measures are expensive to implement.

Recent policy and legislative efforts have focused on trying to assure sustainable potable water supplies exists to meet the health and safety needs of the citizens. In conjunction with these efforts, the EO directs DWR to work with counties throughout the State to facilitate improved drought planning for rural communities and small water suppliers.

3.3.2 EO Directive

EO Item 10 focuses on improved drought resiliency to small water suppliers and rural communities. The State's primary intent of this directive is to assure the availability and reliability of potable water supplies to meet the health and safety needs of citizens not otherwise receiving water from designated urban water suppliers. EO Item 10 states:

> *For areas not covered by a Water Shortage Contingency Plan, the Department [DWR] shall work with counties to facilitate improved drought planning for small water suppliers and rural communities.*

3.3.3 Recommendations

Recommendations in this section focus on improved drought planning for small water suppliers and rural communities throughout every county in California.

EO Agencies are considering various actions to satisfy EO Item 10. The recommendations described below are intended to illustrate options currently under consideration and to describe the types of activities underway. This process to develop recommendations will continue into 2017.

The intent of these recommendations is for the EO Agencies and counties to collectively:

- Improve assessment of drought vulnerability to understand relative risks and prioritize actions.
- Take proactive actions to reduce drought vulnerability when and where appropriate.
- Improve availability and readiness of appropriate responses for when drought impacts do occur, including financing when and where appropriate.
- Recognize the existence of established small water system drought planning and work to develop flexibility for the incorporation of these plans into the county drought planning process.

The EO Agencies recommend the following efforts as a pathway to developing recommendations:

1. Improve engagement with cities and counties, as well as stakeholders such as the League of California Cities, the California State Association of Counties, the Rural County Representatives of California, the Community Water Center, tribal governments, and others.
2. Demonstrate commitments from the EO Agencies for continued engagement, for initial data collection and analysis, and for improved communications and outreach.
3. Continued engagement by the EO Agencies to work with stakeholders through a public process in 2017 to develop a countywide drought plan and recommendations.
4. All counties incorporate drought planning into their Hazard Mitigation Plans.

Although conversations and work among EO Agencies, counties, and interested and affected parties have been preliminary, the EO Agencies anticipate more specific, functional recommendations would address the following:

1. Reporting and Data Recording – Improved data collection, management, analysis, sharing, and transparency at all levels is foundational to the ability to plan. Data analysis will allow for better coordination among stakeholders and improve on both long-term actions as well as immediate responses to drought risks, especially in rural communities.

2. Communications Planning – Improved monitoring and communications among stakeholders, from the State, through the counties, and to the water suppliers and citizens.

3. County Demonstration of Drought Planning – While some portion of a county's citizenry may be covered by an urban supplier's WSCP or a small suppliers' drought plan (not required), there is nothing currently available to demonstrate that drought risk is being addressed for all county citizens. To address this need, counties may submit drought planning information to the EO Agencies through documents such as:

    a) Drought-specific protocols defined in a county (or multi-jurisdictional) Hazard Mitigation Plan.

    b) A County Drought Plan.

4. Roles and Responsibilities – Defined State Agency and county roles, responsibilities, and funding mechanisms.

5. Coordination – The EO Agencies and the county, working with stakeholders, should coordinate with SGMA efforts to assure drought planning and responses are reflected in Groundwater Sustainability Plans (where applicable).

3.3.4 Reporting, Compliance Assistance, and Enforcement

As the recommendations for satisfying EO Item 10 are still under development, no reporting, compliance assistance, or enforcement actions have been identified at this time but will be considered as development progresses.

3.4 Agricultural Water Management Plans

3.4.1 Current Status and Need for Change

Current Status

SB X7-7 requires agricultural water suppliers that provide water to more than 25,000 irrigated acres[21] to (1) adopt and submit AWMPs to DWR, and (2) implement Efficient Water Management Practices (EWMP) including the measurement and volumetric pricing of water deliveries, both on or before December 31, 2012. AWMPs must be updated on December 31, 2015, and every five years thereafter (CWC Section 10820 (a)).

Agricultural water suppliers that provide water to 10,000 and up to 25,000 irrigated acres[22] are currently not required to prepare and submit plans unless State funds are available to support the planning efforts (CWC Section 10853). SB X7-7 permits water suppliers that are contractors under the Reclamation Reform Act or Central Valley Project Improvement Act requirements to submit their federal plans in lieu of a plan meeting the SB X7-7 criteria. Those suppliers must also provide additional information on water measurement and pricing to meet the SB X7-7 requirements of CWC Section 10608.48 and California Code of Regulations (CCR) Section 597. DWR's *Guidebook to Assist Agricultural Water Suppliers to Prepare a 2015 Agricultural Water management Plan* (June 2015) describes how federal plans can be

[21] Excluding acreage irrigated with recycled water.
[22] Excluding acreage irrigated with recycled water.

supplemented to satisfy the CWC and CCR requirements.

Agricultural water suppliers are required to describe certain elements such as service area and infrastructure, the quantity and quality of water resources, water uses, previous water management activities and planned implementation of EWMPs, and an analysis on the effect of climate change under SB X7-7.

CWC Section 10608.48(d) requires that an agricultural water supplier include in its AWMP:

> *…a report on which EWMPs have been implemented or are planned to be implemented, an estimate of the water use efficiency improvements that have occurred since the last report, and an estimate of the water use efficiency improvements estimated to occur five and ten years in the future. If a supplier determines that a EWMP is not locally cost-effective or technically feasible, the supplier shall submit information documenting that determination.*

CWC Section 10608.48(a) requires that agricultural water suppliers implement EWMPs pursuant to CWC Sections 10608.48(b) and (c). Two critical EWMPs must be implemented by the agricultural water supplier serving 25,000 or more irrigated acres (CWC Section 10608.48(b)):

1. Measure the volume of water delivered to customers with sufficient accuracy to comply with subdivision (a) of Section CCR Section 531.1016.

2. Adopt a pricing structure for water customers based at least in part on quantity delivered.

CWC Section10608.48(c) requires implementation of 14 EWMPs if locally cost-effective and technically-feasible. Agricultural water suppliers must adopt the plan by December 31, 2012, and update it by December 31, 2015, and every five years thereafter, and submit the plan to DWR within 30 days of adoption (CWC Section 10820 (a)). Since July 1, 2013, an agricultural water supplier subject to the SB X7-7 requirements must submit an AWMP and implement applicable EWMPs to be eligible for a water grant or loan awarded or administered by the State (CWC Section 10608.56(b) and 10852). Agricultural water suppliers not implementing all of the applicable EWMPs may become eligible for State grants and loans if agricultural water suppliers provide a schedule, financing plan, and budget for the implementation of the required EWMPs (CWC Section 10608.56(d)). Grant or loan funds may be requested to implement EWMPs to the extent the grant or loan proposal is consistent with the water fund eligibility requirements (CWC Section 10608.56(d)).

AWMPs adopted by agricultural water suppliers and updated every five years are meant to be planning documents to better manage water provided for irrigation and increase the efficiency of water use in agriculture. To make AWMPs better planning documents, EO B-29-15 of April 1, 2015, required that the 2015 AWMPs include a detailed drought management plan and quantification of water supplies and demands in 2013, 2014, and 2015, to the extent that data is available. EO B-29-15 also required that agricultural water suppliers that supply water to 10,000 to 25,000 acres of irrigated lands develop AWMPs and submit their plans to DWR by July 1, 2016.

Need for Change

The EO recognizes that further improving water conservation in California will require progress in all sectors, including agriculture, and that there is a fundamental need for updating existing agricultural water management planning requirements to help advance the efficiency of agricultural water use and better prepare for periods of limited supply. This would entail updating AWMP requirements to include a drought planning component, as well as quantifiable measures to increase agricultural water use efficiency. To promote adequate drought planning across the agricultural sector, the EO

requires more agricultural water suppliers to comply with the requirements by lowering the threshold of application to water suppliers with 10,000 acres of irrigated land. The EO Agencies also recognize the strong nexus of adequate agricultural water management strategies and implementation of SGMA, and propose a consistent methodology focusing on a supplier's overall water budget that can contribute to compliance for both purposes.

3.4.2 EO Directive

EO Items 11, 12, and 13 state:

11. *The Department [DWR] shall work with the California Department of Food and Agriculture to update existing requirements for Agricultural Water Management Plans to ensure that these plans identify and quantify measures to increase water efficiency in their service area and to adequately plan for periods of limited water supply.*

12. *The Department [DWR] shall permanently require the completion of Agricultural Water Management Plans by water suppliers with over 10,000 irrigated acres of land.*

13. *The Department [DWR], together with the California Department of Food and Agriculture, shall consult with agricultural water suppliers, local governments, agricultural producers, environmental groups, and other partners to update requirements for Agricultural Water Management Plans. The update draft requirements shall be publicly released by January 10, 2017.*

EO Item 6 requires EO Agencies to accelerate data collection and improve water system management and prioritize capital projects to reduce water waste. This applies to agricultural water suppliers as well and is covered in this section.

3.4.3 Recommendations

To satisfy the EO directive, DWR recommends that water suppliers comply with the following: (1) develop annual water budget for the agricultural water supplier's service area, (2) identify agricultural water supplier's water management objectives and implementation plan, (3) quantify measures to increase water use efficiency, (4) develop an adequate drought plan for periods of limited supply, and (5) extend the updated requirements to more water suppliers. The following discussion provides additional details in these five recommendation areas. This information would be included as components of a supplier's AWMP.

Develop Annual Water Budget for the Agricultural Water Supplier's Service Area

To make AWMPs more effective as planning tools and to help water suppliers identify areas where water efficiency improvements can be made, the proposed updated AWMP requirements would require suppliers to include in their plans annual water budgets that account for inflows to and outflows from the water supplier's service area. Including water budgets as part of the AWMP provides the following benefits:

- Better quantifies the flows and uses of water within the supplier's service area and better estimates unmeasurable flows, such as deep percolation.
- Provides the data necessary to quantify water management efficiency within the service area.
- Helps identify and prioritize water loss.
- Aligns AWMP reporting with implementation of SGMA.

As a part of estimating water budget, water suppliers would be required to report all water inflow and outflow components from their service area. The water budget includes two components:

- **Water Budget Inflow.** This includes surface inflow, groundwater pumping in the service

area (including private groundwater pumping), and effective precipitation.

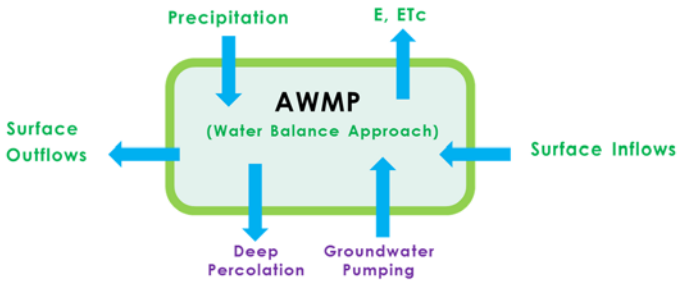
- **Water Budget Outflow.** This includes surface outflow, deep percolation and evapotranspiration (E and ETc).[23]

Agricultural water suppliers are currently required (CWC Section 10826) to describe the quantity and quality of their water resources, water uses within the agricultural water supplier's service area, overall water budget, and water use efficiency information. However, the CWC does not currently require actual quantification of all components sufficient to develop a water budget.

To develop a service area water budget, the proposed revisions to the AWMP requirements would require agricultural water suppliers to quantify all currently reported components and to report on the quantity of two additional components: precipitation and private groundwater pumping.

The annual water budgets for the five year AWMP planning cycle would be reported in the supplier's AWMP on a water year basis (beginning October 1 and ending September 31) to align with SGMA reporting requirements (CCR Section 350 et seq.).

The State, through the Agricultural Water Management Program or the Sustainable Groundwater Management program, may provide tools and resources to assist suppliers in developing and quantifying existing and new components.



The proposed water budget approach with major components covering the needed information for adequate agricultural water management planning and is consistent with the needs for SGMA compliance.

Identify Water Management Objectives and Implementation Plan

The EO Agencies recommend an objective-based planning approach as part of the AWMP, in which water management objectives are identified along with actions to meet these objectives. From the water budget, agricultural water suppliers would identify and select supplier-specific water management objectives to improve water use efficiency or to meet other water management objectives. The proposed water budget approach would help agricultural water suppliers identify and prioritize water loss and identify ways to improve water system management.

In the AWMP, the supplier's objectives or intended results are identified (e.g., decrease percolation to saline ground, provide greater flexibility in irrigation deliveries), then specific efficient water management practices or measures are selected and implemented to achieve the results. Practices implemented to reduce water losses, improve water use efficiency, and attain other water management objectives would be included in an implementation plan as part of the overall AWMP.

Quantify Measures to Increase Water Use Efficiency

The proposed updates to the AWMP requirements would also require agricultural water suppliers to quantify the efficiency of agricultural water use within their service area. Agricultural water suppliers would choose the appropriate method(s) from amongst four efficiency quantification methods provided in the 2012 DWR report to the Legislature titled, "A Proposed Methodology for Quantifying the Efficiency of Agricultural Water Use." These methods can be used to calculate the ratio of beneficial water uses to amount of applied water and include the Crop Consumptive Use Fraction (CCUF), the Agronomic Water

Use Fraction (AWUF), the Total Water Use Fraction (TWUF), and the Water Management Fraction (WMF). While having the flexibility to choose the appropriate water use fraction to determine water use efficiency, the agricultural water supplier needs to ensure that all water uses are taken into account including crop water use, agronomic water use, environmental water use, groundwater recharge, and recoverable surface flows.

The proposed water use fractions (described below) are practical methods for quantifying the efficiency of agricultural water use by irrigated agriculture and other beneficial uses that can help agricultural water suppliers evaluate current conditions and strategies for improving agricultural water management. All four methods described below are applicable for use at the basin- and supplier-scale. At the field-scale, only the first three methods are applicable.

i. Crop Consumptive Use Fraction

CCUF= ETAW/AW

Evapotranspiration of Applied Water (ETAW) is crop evapotranspiration minus the amount of precipitation evapotranspired by the crop.

Applied Water (AW) is the total volume of water that is applied within a boundary (e.g., field, supplier service area, or basin) in order to meet the crop evapotranspiration, agronomic, and environmental uses from any source such as surface water (including tailwater[24] reuse), groundwater (public or private), and the initial soil moisture in the soil profile that is not from precipitation.

ii. Agronomic Water Use Fraction

AWUF = (ETAW + AU)/AW

Agronomic Use (AU) is the portion of applied water used for water management applications essential for crop production. Examples of essential water management applications include salinity management, frost control, and winter flooding for straw decomposition.

iii. Total Water Use Fraction

TWUF = (ETAW + AU + EU)/AW

Environmental Use (EU) is the portion of applied water directed to environmental purposes, including water to produce and/or maintain wetlands, riparian, or terrestrial habitats.

iv. Water Management Fraction

WMF = (ETAW + RF)/AW

Recoverable Flows (RF) is the amount of water leaving a given area as surface flows to non-saline bodies or percolation to usable groundwater that is available for supply or reuse.

Components of these fractions may be empirical (measured or observed), modeled (calculated or estimated), or a combination, based on data availability and system complexity.

Develop a Drought Plan for Periods of Limited Supply

The proposed updates to the AWMP requirements would also require agricultural water suppliers to include a Drought Plan. The Drought Plan should detail how the water supplier would prepare for droughts and manage water supplies and allocations during drought conditions. Some components or actions may require detailed review of conditions, policy changes, or long-term capital improvements. Additionally, as conditions change and new technology and knowledge becomes available, opportunities and constraints will change.

[24] Tailwater refers to surface water runoff from a boundary. Tailwater may be captured and reused within (returned to) the boundary.

The Drought Plan should be prepared to provide adaptive management for and during periods of water shortages. Agricultural water suppliers would consider all items under each component and include a description of applicable items in their Drought Plan.

The Drought Plan would include a resilience component and an action plan, described below.

Resilience Component

The resilience component of the Drought Plan will include the following:

1. A description of what hydraulic levels or conditions (reservoir levels, stream flows, groundwater, snowpack etc.) are or should be monitored and measured to determine the water supply available and to identify levels of drought severity.

2. The supplier's policy or process for declaring a water shortage and for implementing the water shortage allocations and related actions.

3. A description and analysis of the agricultural water supplier's customers' vulnerability to drought (e.g., potential for crop idling, availability of multiple water sources and resilience of each source, existing water storage options).

4. A description of potential opportunities and constraints to improve drought resilience (e.g., improved groundwater or surface water storage potential, acres of permanent crops, environmental use requirements, overdrafted groundwater basin).

5. A description of actions implemented or planned for implementation to improve drought resilience (e.g., potential for improved on-farm water use efficiency measures, groundwater and surface water conjunctive use management, crop idling, and development of alternative supplies such as recycled water or tailwater reuse).

6. Discussion of the potential, if possible, for the supplier to obtain or use additional water supplies during drought conditions. These supplies could include transfers from another water agency or supplier, the use of recycled water and desalination of brackish groundwater or drainage water.

7. A description of the cost for implementing the resilience plan.

Action Plan

The Action Plan will include the following:

1. Allocation Policies – A description of the water shortage allocation policies as required by the Water Code. Water suppliers would describe their program or process for how water is allocated during a water shortage in the Drought Plan or attach a copy of their water shortage allocation policy to their AWMP.

2. Operational Adjustments – Changes in supplier water management and operations to respond to drought, including canal and reservoir operations and groundwater management.

3. Demand Management – Policies and incentives in addition to the water shortage allocation plan to lower on-farm water use.

4. Coordination and Collaboration – Include a description on how coordination and collaboration with other local suppliers, water agencies, or regional groups will be used in drought response.

5. Revenues and Expenditures – Describe how the drought and lower water allocations will affect the supplier's revenues and expenditures.

Extend Requirements to More Agricultural Water Suppliers

The proposed updates to the AWMP requirements would extend the requirement for AWMPs to include agricultural water suppliers supplying water

to more than 10,000 acres of irrigated land, excluding recycled water.

3.4.4 Reporting, Compliance Assistance, and Enforcement

Reporting

All agricultural water suppliers providing water supplies to 10,000 or more irrigated acres, excluding recycled water, would be required to prepare and adopt an AWMP on or before April 1, 2021, and every five years thereafter. Agricultural water suppliers would continue to be required to submit their plans to DWR within 30 days of adoption. A water supplier that provides both urban and agricultural supplies, and is subject to both UWMP and AWMP reporting, may satisfy the AWMP requirements by adopting an UWMP that accounts for its agricultural water use and meets both requirements.

Reclamation Reform Act and Central Valley Project water suppliers that submit water conservation plans to Reclamation may still submit those plans to DWR, along with supplemental information, including: a Drought Plan for all suppliers, and water measurement and volumetric pricing for those water suppliers providing water to 25,000 irrigated acres or more, excluding recycled water (CCR Section 597.1(a) and CWC Section 10608.48(b)).

AB 1404 (Statutes of 2007, Chapter 675) requires that all agricultural water suppliers supplying 2,000 acre-feet or more of surface water annually for agricultural purposes or serving 2,000 or more acres of agricultural land must submit an annual aggregated farm-gate delivery report to DWR. Per AB 1404, an agricultural water supplier will:

- Provide DWR with monthly or bimonthly aggregated farm-gate deliveries on an annual basis, along with information on their farm-gate measurement program or practices to document that they are using "Best Professional Practices;" or
- Provide DWR with information that documents that the implementation of a program or practices to measure farm-gate deliveries using Best Professional Practices is not locally cost effective.

For the purpose of aligning agricultural water supplier annual reporting with SGMA reporting requirements, EO Agencies recommend that the annual aggregated farm-gate delivery reporting requirements for agricultural water suppliers providing water to over 10,000 irrigated acres only, be detailed by groundwater basin within the supplier's service area, if applicable.

Compliance Assistance

DWR would assist agricultural water suppliers in several ways:

1. AWMP Guidebook – DWR would update the AWMP Guidebook and provide an updated AWMP template to help agricultural water suppliers better understand the CWC AWMP requirements and assist them in developing an AWMP. The Guidebook would also describe how water conservation plans submitted to Reclamation can be supplemented to satisfy the CWC and Agricultural Water Measurement Regulation requirements.

2. AWMP Workshops – Prior to finalizing the AWMP Guidebook, DWR would release a draft and hold public workshops to give opportunity for stakeholders to comment on the draft guidelines. Additional workshops would be conducted after releasing the final Guidebook.

3. California Irrigation Management Information System – DWR would continue to support and update the California Irrigation Management Information System (CIMIS) to provide climate data and resources (e.g., precipitation, crop use coefficients) necessary for calculating components of the water budget and water use efficiency fractions.

4. Water Use Efficiency Calculator – DWR would make available the water use efficiency calculator being developed and tested by the University of California through Proposition 50 and Proposition 1 grants.

The EO Agencies further recommend that DWR, through the Agricultural Water Management Program or the Sustainable Groundwater Management Program, consider providing additional tools and resources to assist suppliers in quantifying water budget components pertaining to evapotranspiration of applied water and private groundwater pumping. Examples of these tools and resources include remote sensing for measurement of actual evapotranspiration, and models or tools for calculating deep percolation to groundwater.

DWR would lead the compliance review for submitted plans, data, and information, which are due by April 1 starting in 2021. The compliance schedule is outlined below:

1. DWR would provide an updated list of agricultural water suppliers required to submit plans to CDFA and the Water Board by March 1, 2021, and every five years thereafter.

2. DWR would continue to review each plan for meeting the requirements, including the updated and new components, as they are received. However, DWR will expedite the review if an agricultural water supplier is seeking a State grant or loan with a specific deadline. DWR may coordinate with the Water Board and CDFA on the review.

3. DWR would inform the Water Board and CDFA of the plan submittal status and review status, and post the information on DWR's website for public reference.

4. If a plan has not been submitted by July 1, 2021, and every five years thereafter or is incomplete following review, DWR would notify the agricultural water supplier, and would work with the supplier to develop a plan for corrective actions and completing the plan.

5. If the agricultural water supplier fails to submit a plan by October 31, 2021, and every five years thereafter or does not submit a plan within the negotiated plan and schedule for completion, DWR would notify the Water Board and CDFA of non-compliance for enforcement actions.

Enforcement

Water suppliers would continue to be required to have a current AWMP that has been reviewed by DWR and found to have addressed all the required elements to be eligible for State grant and loan funding.

The Water Board, in addressing agricultural suppliers that have not submitted AWMPs or have not revised AWMPs to correct identified deficiencies, may consider further enforcement actions including potential fines and civil penalties.

Chapter 4 – Implementing the Conservation Framework

The heightened awareness of water scarcity and the severity of our current drought have prompted Californians to achieve new levels of conservation and resiliency. When implemented along with necessary statutory authorities and resources, the proposed conservation framework will provide the foundation needed to transform these emergency accomplishments into a long-term, sustainable water use practice for all Californians. The Administration is proposing legislation for water conservation standards and reporting, urban water shortage contingency planning, and agricultural water management planning.

4.1 Conservation as an Integral Part of Water Management

Conservation alone cannot ensure a long-term sustainable water supply and drought protection for all Californians; however, a deep-rooted conservation ethos is fundamental to changing individual and societal behaviors and making progress toward these desired outcomes.

The framework presented in this report is designed to be part of the broader, multi-faceted implementation of the Water Action Plan. Conservation and drought protection are but two of the focus areas of the Water Action Plan, along with integrated water management, Sacramento-San Joaquin Delta management, ecosystem restoration, storage, and flood protection. The Water Action Plan also calls for increasing operational and regulatory efficiencies and identifying sustainable, integrated financing opportunities.

The EO Agencies will continue to work collaboratively, while maintaining open and transparent dialogue and technical exchange throughout implementation.

4.2 Support for Framework Implementation

As described below, several components are critical to enabling implementation of the recommended framework outlined herein.

4.2.1 Legislation and Regulatory Rulemaking

Many recommendations of the EO Agencies will require new and/or expanded authorities to execute. For those recommendations that fall within the existing authorities of the EO Agencies, rulemaking processes may still be needed to formalize requirements.

For recommendations related to existing authorities, the EO Agencies will conduct rulemaking processes that provide opportunities for input and comment from stakeholders, interested parties, and the public.

For recommendations requiring new and expanded authorities, the EO Agencies will coordinate with the Governor's Office and the Legislature in seeking amendments to existing codes. Code amendments to support framework implementation may include the following:

- **Establish New Water Use Standards and Targets:** CWC sections 10610-10656 for UWMPs; a new section added to CWC to establish and implement standards and water use targets, with associated changes in

CWC Section 10608 related to existing conservation requirements.

- **Strengthening Water Shortage Contingency Planning:** CWC sections 350-359 regarding emergency declaration; CWC sections 10631, 10632, and 10635 for required information reporting.
- **Improve Drought Planning for Small Water Suppliers and Rural Communities:** To be determined through continued collaboration of the EO Agencies and stakeholders, potentially requiring new language in the CWC.
- **Strengthening Requirements for Agricultural Water Management**: CWC sections 10800-10845 for AWMPs; CCR sections 597-597.4 and CWC sections 531-531.10 for aggregated farm-gate delivery reporting.

4.2.2 Continued Collaboration on Water Use Standard Development

The EO Agencies are committed to continued collaboration with stakeholders on water use standard development and implementation of the actions discussed below.

In implementing this proposed conservation framework, the EO Agencies will establish water standards for implementation by 2021. The EO Agencies have proposed the roles and responsibilities described below.

Data Collection and Management

DWR and the Water Board are committed to streamlined reporting, elimination of redundant data submittals, and open access to data collected by each agency. Furthermore, each agency relies on data collected by the other to conduct important regulatory and planning efforts, including development of the California Water Plan, Urban Water Management Plan review, Division of Drinking Water information, and urban conservation data. To facilitate better data management, DWR and the Water Board will jointly develop an approach each agency could take to streamline the data submittal and collection processes. The approach will include key data needs, describe how agency coordination could reduce regulatory overlap.

Data on monthly water usage, amount of conservation achieved, and enforcement efforts will be submitted to the Water Board. The Water Board will update monthly reporting requirements and to make those reporting requirements permanent.

DWR will collect data related to UWMPs, WSCPs, and AWMPs. DWR would also receive annual reports on water use target progress and compliance, beginning in 2019.

Setting Standards

DWR would lead technical work related to setting standards, methodologies, and protocols, working in conjunction with the Water Board.

DWR and Water Board staff will propose standards to the Water Board for adoption, and will base the proposed standards on the technical research and outreach efforts. The Water Board will be responsible for adopting the standards through a regulatory proceeding.

Enforcement

DWR will refer compliance issues related to submittals and requirements for UWMPs, WSCPs, and AWMPs to the Water Board for enforcement.

DWR and the Water Board will work together to develop compliance criteria and review target compliance. DWR would provide technical assistance to suppliers to help them reach compliance. The Water Board will retain independent enforcement discretion. The Water Board will identify and determine enforcement measures for suppliers that are not meeting their water targets. Between 2022 and 2025, the Water Board may issue Informational Orders or Conservation Orders to assist water suppliers with compliance. Beginning in 2026, the Water Board may also issue Administrative Civil Liability or Cease

and Desist Orders to water suppliers that have failed to meet their targets. Water suppliers not meeting targets may not be eligible for state funding programs.

Recognizing that water use efficiency is one component of sustainable water management, the EO Agencies will seek to balance the need for conservation with the need for water suppliers to continue investing in water supply portfolio diversification, including direct and indirect water reuse, storage and conjunctive use, stormwater capture and reuse, sustainable groundwater use, and desalination, where appropriate.

Public Input, Processes, and Feedback

Upon direction to develop standards from the Legislature, the EO Agencies will continue to collaborate with stakeholders and subject matter experts to ensure adequate progress is made in standard development and that the resulting standards will be reasonable and fair. Additionally, there will be numerous opportunities for public and stakeholder input as the standards are developed. Opportunities for public and stakeholder input may include, but are not limited to, the following:

- Stakeholder meetings and public workshops to report progress and solicit input on development of indoor and outdoor efficiency standards, including specific activities like the landscape area pilot project.
- Continued Urban Advisory Group engagement, at least twice a year through 2021.
- A CII Technical Workgroup to assist with development of appropriate CII classifications and corresponding performance measures.

In addition, any rulemaking process resulting from implementation of the proposed framework would include the following:

- Public written comment on draft regulations
- A public workshop
- Public adoption meeting

EO Agency staff typically hold scoping meetings throughout the regulatory development process in order to receive stakeholder feedback before going forward with draft regulatory language.

4.3 Implementation Considerations

The EO Agencies appreciate the long-term commitment and investment required by water suppliers throughout California to implement the proposed long-term framework. To facilitate successful implementation, the EO Agencies recognize the importance of the following considerations when necessary authority and resources are provided.

- **Coordination, Collaboration, Messaging, and Outreach:** The EO Agencies recognize the importance of continued coordination and collaboration to ensure that the framework is implemented as envisioned, providing improved drought protection for all communities and embodying water conservation in every aspect of our daily lives.

  The extraordinary conservation accomplished during the current drought was attributable in part to a strong, persistent, and active campaign and outreach led by the EO Agencies to promote conservation, combined with mandatory conservation requirements imposed by the Water Board. Active messaging and outreach efforts on conservation by the EO Agencies and suppliers will provide strong support to water suppliers in their efforts to promote conservation. Water use education and conservation programs must continue after the drought emergency is lifted.

- **Water Rates and Proposition 218:** The EO Agencies recognize that State financial assistance, when available, will never be sufficient for water suppliers to implement all necessary actions to comply with the requirements outlined in the framework. It will be important that water suppliers have the ability to generate funding for their investment needs and stable revenue for steady improvements.

  The EO Agencies acknowledge the challenges water suppliers face in generating sufficient local funding to support continued conservation efforts and other needed investments due to Proposition 218. While the framework does not contain requirements on rate structures, the EO Agencies encourage water suppliers to consider the effect of drought on revenue generation and incorporate measures for rate stabilization. Each water supplier should customize its rate structure with full consideration of its cost of service and with long-term financial sustainability as the goal.

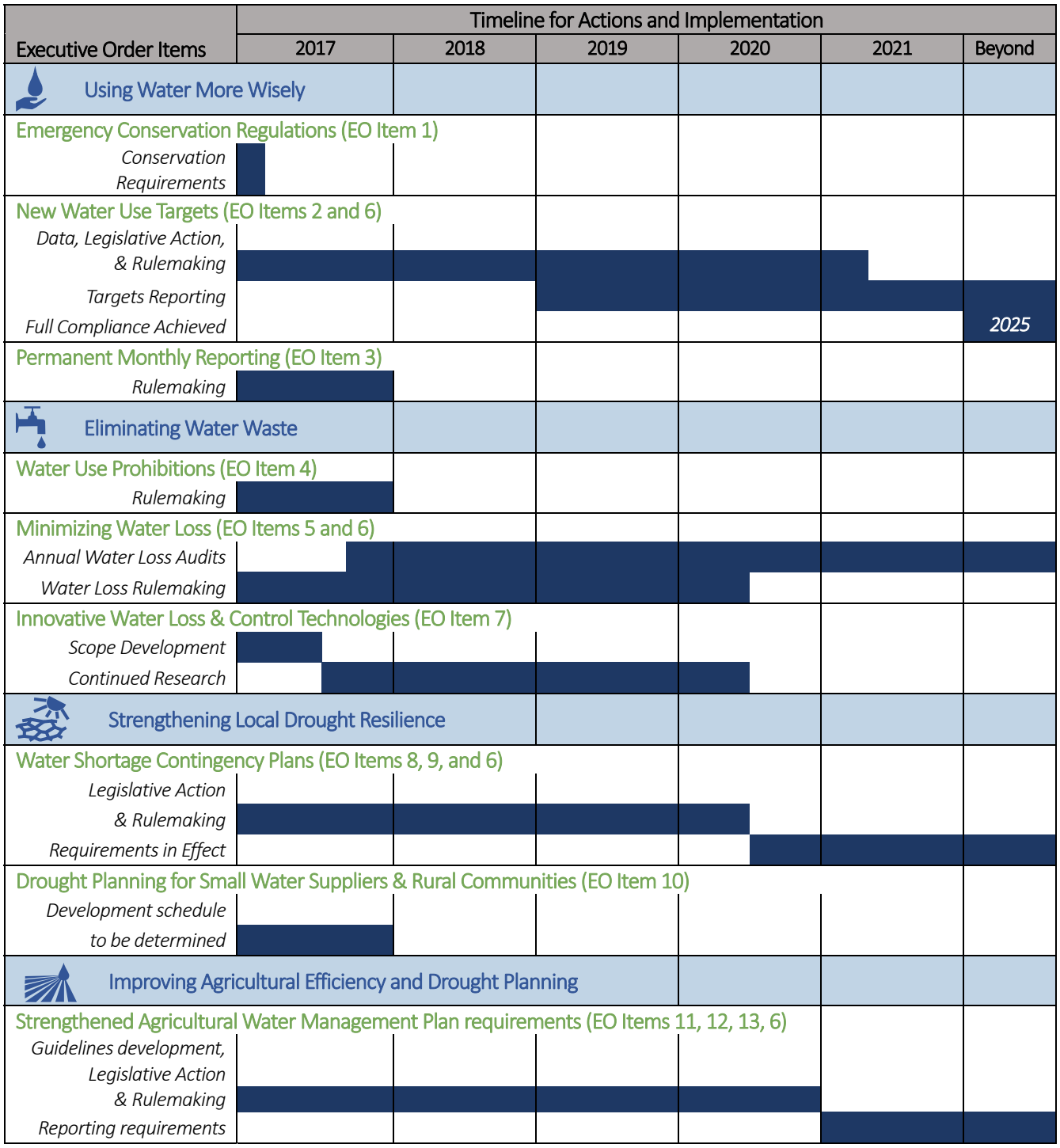
- **Coordination with Land Use Agencies and Other Jurisdictions:** The EO Agencies recognize that land use agencies (i.e., cities and counties) have direct responsibilities and jurisdictions over zoning and land development, landscape requirements, and various ministerial and discretionary permits that can positively influence direct conservation and efficiency actions. Where appropriate, the EO Agencies may facilitate communications and collaboration with local governments throughout implementation.

4.4 Implementation Schedule

The schedule for implementation of the proposed actions and recommendations identified in Chapters 2 and 3 is summarized in Figure 4-1.

Any new and/or expanded authorities required for framework implementation may be addressed during the 2017 and 2018 legislative sessions. Note that the implementation process outlined in the proposed framework is subject to change based on updated information, or subsequent legislation and rulemaking.

Figure 4-1. Anticipated Implementation Timeline for EO Directives



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ATTACHMENT A:
Executive Order B-37-16

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Executive Department

State of California

EXECUTIVE ORDER B-37-16
MAKING WATER CONSERVATION A CALIFORNIA WAY OF LIFE

WHEREAS California has suffered through a severe multi-year drought that has threatened the water supplies of communities and residents, devastated agricultural production in many areas, and harmed fish, animals and their environmental habitats; and

WHEREAS Californians responded to the drought by conserving water at unprecedented levels, reducing water use in communities by 23.9% between June 2015 and March 2016 and saving enough water during this period to provide 6.5 million Californians with water for one year; and

WHEREAS severe drought conditions persist in many areas of the state despite recent winter precipitation, with limited drinking water supplies in some communities, diminished water for agricultural production and environmental habitat, and severely-depleted groundwater basins; and

WHEREAS drought conditions may persist in some parts of the state into 2017 and beyond, as warmer winter temperatures driven by climate change reduce water supply held in mountain snowpack and result in drier soil conditions; and

WHEREAS these ongoing drought conditions and our changing climate require California to move beyond temporary emergency drought measures and adopt permanent changes to use water more wisely and to prepare for more frequent and persistent periods of limited water supply; and

WHEREAS increasing long-term water conservation among Californians, improving water use efficiency within the state's communities and agricultural production, and strengthening local and regional drought planning are critical to California's resilience to drought and climate change; and

WHEREAS these activities are prioritized in the California Water Action Plan, which calls for concrete, measurable actions that "Make Conservation a California Way of Life" and "Manage and Prepare for Dry Periods" in order to improve use of water in our state.

NOW, THEREFORE, I, EDMUND G. BROWN JR., Governor of the State of California, in accordance with the authority vested in me by the Constitution and statutes of the State of California, in particular California Government Code sections 8567 and 8571, do hereby issue this Executive Order, effective immediately.

IT IS HEREBY ORDERED THAT:

The orders and provisions contained in my January 17, 2014 Emergency Proclamation, my April 25, 2014 Emergency Proclamation, Executive Orders B-26-14, B-28-14, B-29-15, and B-36-15 remain in full force and in effect except as modified herein.

State agencies shall update temporary emergency water restrictions and transition to permanent, long-term improvements in water use by taking the following actions.

USE WATER MORE WISELY

1. The State Water Resources Control Board (Water Board) shall, as soon as practicable, adjust emergency water conservation regulations through the end of January 2017 in recognition of the differing water supply conditions across the state. To prepare for the possibility of another dry winter, the Water Board shall also develop, by January 2017, a proposal to achieve a mandatory reduction in potable urban water usage that builds off of the mandatory 25% reduction called for in Executive Order B-29-15 and lessons learned through 2016.

2. The Department of Water Resources (Department) shall work with the Water Board to develop new water use targets as part of a permanent framework for urban water agencies. These new water use targets shall build upon the existing state law requirements that the state achieve a 20% reduction in urban water usage by 2020. (Senate Bill No. 7 (7th Extraordinary Session, 2009-2010).) These water use targets shall be customized to the unique conditions of each water agency, shall generate more statewide water conservation than existing requirements, and shall be based on strengthened standards for:

    a. Indoor residential per capita water use;
    b. Outdoor irrigation, in a manner that incorporates landscape area, local climate, and new satellite imagery data;
    c. Commercial, industrial, and institutional water use; and
    d. Water lost through leaks.

    The Department and Water Board shall consult with urban water suppliers, local governments, environmental groups, and other partners to develop these water use targets and shall publicly issue a proposed draft framework by January 10, 2017.

3. The Department and the Water Board shall permanently require urban water suppliers to issue a monthly report on their water usage, amount of conservation achieved, and any enforcement efforts.

ELIMINATE WATER WASTE

4. The Water Board shall permanently prohibit practices that waste potable water, such as:

    - Hosing off sidewalks, driveways and other hardscapes;
    - Washing automobiles with hoses not equipped with a shut-off nozzle;
    - Using non-recirculated water in a fountain or other decorative water feature;
    - Watering lawns in a manner that causes runoff, or within 48 hours after measurable precipitation; and
    - Irrigating ornamental turf on public street medians.

5. The Water Board and the Department shall direct actions to minimize water system leaks that waste large amounts of water. The Water Board, after funding projects to address health and safety, shall use loans from the Drinking Water State Revolving Fund to prioritize local projects that reduce leaks and other water system losses.

6. The Water Board and the Department shall direct urban and agricultural water suppliers to accelerate their data collection, improve water system management, and prioritize capital projects to reduce water waste. The California Public Utilities Commission shall order investor-owned water utilities to accelerate work to minimize leaks.

7. The California Energy Commission shall certify innovative water conservation and water loss detection and control technologies that also increase energy efficiency.

STRENGTHEN LOCAL DROUGHT RESILIENCE

8. The Department shall strengthen requirements for urban Water Shortage Contingency Plans, which urban water agencies are required to maintain. These updated requirements shall include adequate actions to respond to droughts lasting at least five years, as well as more frequent and severe periods of drought. While remaining customized according to local conditions, the updated requirements shall also create common statewide standards so that these plans can be quickly utilized during this and any future droughts.

9. The Department shall consult with urban water suppliers, local governments, environmental groups, and other partners to update requirements for Water Shortage Contingency Plans. The updated draft requirements shall be publicly released by January 10, 2017.

10. For areas not covered by a Water Shortage Contingency Plan, the Department shall work with counties to facilitate improved drought planning for small water suppliers and rural communities.

IMPROVE AGRICULTURAL WATER USE EFFICIENCY AND DROUGHT PLANNING

11. The Department shall work with the California Department of Food and Agriculture to update existing requirements for Agricultural Water Management Plans to ensure that these plans identify and quantify measures to increase water efficiency in their service area and to adequately plan for periods of limited water supply.

12. The Department shall permanently require the completion of Agricultural Water Management Plans by water suppliers with over 10,000 irrigated acres of land.

13. The Department, together with the California Department of Food and Agriculture, shall consult with agricultural water suppliers, local governments, agricultural producers, environmental groups, and other partners to update requirements for Agricultural Water Management Plans. The updated draft requirements shall be publicly released by January 10, 2017.

The Department, Water Board and California Public Utilities Commission shall develop methods to ensure compliance with the provisions of this Executive Order, including technical and financial assistance, agency oversight, and, if necessary, enforcement action by the Water Board to address non-compliant water suppliers.

This Executive Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

I FURTHER DIRECT that as soon as hereafter possible, this order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this order.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 9th day of May 2016.

EDMUND G. BROWN JR.
Governor of California

ATTEST:

ALEX PADILLA
Secretary of State

ATTACHMENT B:
Public Outreach and Stakeholder Engagement

On May 9, 2016 Governor Edmund G. Brown Jr. issued Executive Order B-37-16 directing State Agencies to establish a long-term framework for water conservation and drought planning that builds on the conservation accomplished during the historical drought and implementation of the Governor's Water Action Plan. The named agencies include DWR, Water Board, CPUC, CDFA, and CEC (collectively, the EO Agencies). The full text of the EO can be found at the Governor's Office Website, https://www.gov.ca.gov/docs/5.9.16_Attested_Drought_Order.pdf, or in Attachment A to this report.

The EO Agencies have developed a collaborative program to formulate the long-term framework for water conservation and drought planning called for by the EO with extensive public outreach and stakeholder engagement. In addition to public input throughout the process, the EO Agencies formed the Urban Advisory Group and Agricultural Advisory Group to provide input into the framework development. These advisory groups represent urban and agricultural water suppliers, local governments, professional associations, academics, environmental advocacy groups, and other interested parties. The framework development, associated public outreach and stakeholder engagement process, and public comments received are available at DWR's website, http://www.water.ca.gov/wateruseefficiency/conservation/.

The following provides a list of public outreach and stakeholder engagement meetings throughout the process in developing the report (in chronological order) after the issuance of the EO on May 9, 2016.

Date	Event	Location
June 3, 2016	Listening Session #1 for the Directives of Executive Order B-37-16	Sacramento, CA
June 6, 2016	Listening Session #2 for the Urban Directives of Executive Order B-37-16	Los Angeles, CA
June 7, 2016	Listening Session #3 for the Listening Session Agricultural and County Drought Planning Directives of Executive Order B-37-16	Tulare, CA
August 15, 2016	EO B-37-16 Urban Advisory Group Meeting #1	Sacramento, CA
August 25, 2016	EO B-37-16 Agricultural Advisory Group Meeting #1	Sacramento, CA
August 31, 2016	EO B-37-16 Water Shortage Contingency Planning Workshop #1	Sacramento, CA
September 1, 2016	EO B-37-16 Water Shortage Contingency Planning Workshop #2	Fountain Valley, CA
September 6, 2016	EO B-37-16 Long-Term Water Use Targets Workshop #1	Oakland, CA
September 8, 2016	EO B-37-16 Long-Term Water Use Targets Workshop #2	Los Angeles, CA
September 19 and 20, 2016	EO B-37-16 Urban Advisory Group Meeting #2	Los Angeles, CA
September 26, 2016	EO B-37-16 Agricultural Advisory Group Meeting #2	Madera, CA

Date	Event	Location
October 3, 2016	EO B-37-16 Water Shortage Contingency Planning Technical Workshop #2	Sacramento, CA
October 5, 2016	State Water Resources Control Board Workshop on EO B-37-16 and Implementation	Sacramento, CA
October 11, 2016	CEC Staff Workshop Innovative Water Conservation and Water Loss Detection and Control Technologies	Sacramento, CA
October 13, 2016	EO B-37-16 Water Shortage Contingency Planning Workshop – Focus on Drought Planning for Small Water Suppliers and Rural Communities	Sacramento, CA
October 18, 2016	EO B-37-16 Agricultural Advisory Group Meeting #3	Sacramento, CA
October 20, 2016	EO B-37-16 Urban Advisory Group Meeting #3	Sacramento, CA
December 7, 2016	EO B -37-16 Agricultural Advisory Group and Urban Advisory Group Public Draft Report Meeting	Sacramento, CA
January 6, 2017	EO B -37-16 Agricultural Advisory Group Meeting #4	Sacramento, CA

Public meeting at California Department of Food and Agriculture, December 7, 2016.

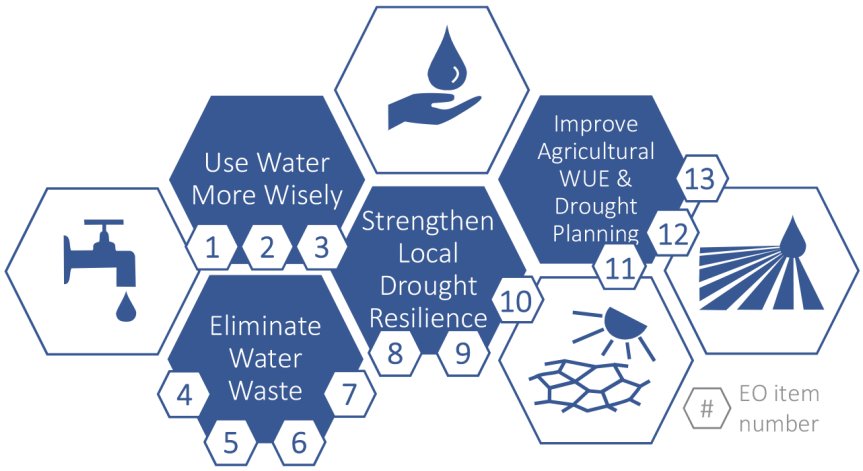
Fact Sheet

Making Water Conservation a California Way of Life

On May 9, 2016 Governor Edmund G. Brown Jr. issued Executive Order B-37-16 (EO or Order) directing State Agencies to establish a long-term framework for water conservation and drought planning. The Order builds on the conservation accomplished during the historical drought and implementation of the Governor's Water Action Plan. The named agencies include California Department of Water Resources (DWR), State Water Resources Control Board (Water Board), California Public Utilities Commission (CPUC), California Department of Food and Agriculture (CDFA), and California Energy Commission (CEC) (collectively, EO Agencies). The full text of the Executive Order can be found at the Governor's Office Website, https://www.gov.ca.gov/docs/5.9.16_Attested_Drought_Order.pdf.

Overview of EO Implementation

The Order has four primary objectives: (1) use water more wisely, (2) eliminate water waste, (3) strengthen local drought resilience, and (4) improve agricultural water use efficiency and drought planning. There are thirteen specific items under these four primary objectives for EO Agencies to implement. In addition, the Order further directs DWR, the Water Board, and CPUC to develop methods for reporting, compliance assistance and enforcement.



The EO Agencies employed a robust stakeholder engagement process, which commenced with a series of public listening sessions in June 2016. Subsequently, the EO Agencies convened two stakeholder advisory groups – an Urban Advisory Group and an Agricultural Advisory Group – comprised of specific stakeholder types identified in the Executive Order, as well as additional interests such as disadvantaged communities and environmental justice advocates, academia, industry, professional associations, and others. These meetings were open to the public and used to solicit input for EO Agency consideration in developing the long-term framework for water conservation. The framework development, its associated public outreach and stakeholder engagement process, and the public comments received are available at DWR's website, http://www.water.ca.gov/wateruseefficiency/conservation/.

The final framework report was released on April 7, 2017. This Report, titled ***Making Water Conservation a California Way of Life, Implementing Executive Order B-37-16,*** addresses EO requirements, provides information to the Legislature and other interested parties on the EO Agencies' proposed framework for efficient water use, and includes a proposed implementation timeline. Collectively, the EO Agencies will be undertaking a suite of actions that can be implemented using existing authorities, ranging from rulemaking proceedings to expanded technical assistance, to evaluation and certification of new technologies to implement the four objectives. Where necessary, the EO Agencies have also recommended additional actions and authorities to meet EO requirements that require legislation for implementation.

The intent of the proposed long-term conservation framework is to:

*(1) **Facilitate** a fundamental shift of conservation implementation to a more durable, equitable, and consistent framework for the State;*

*(2) **Provide** greater statewide consistency in preparing Urban Water Management Plans, Water Shortage Contingency Plans, and Agricultural Water Management Plans; and continue to work with counties to improve drought planning in small communities and rural areas;*

*(3) **Enable** water suppliers to customize their water management strategies and plan implementation to regional and local conditions;*

*(4) **Empower** water suppliers to take a place-based response to water shortages caused by drought or other water emergencies; and*

*(5) **Incentivize** use of new technologies and set standards to reduce leaks.*

Key elements of the proposed framework are included below. The Administration is proposing legislation for water conservation standards and reporting, urban water shortage contingency planning, and agricultural water management planning.

Use Water More Wisely

Emergency Conservation Regulations (EO Item 1). The Water Board's emergency conservation regulations expire on November 25, 2017. After evaluating current hydrologic conditions across California, the Water Board will rescind the emergency requirement for a water supply stress test or mandatory conservation standard for urban water agencies, but, to provide a bridge to permanent requirements, it will continue to require monthly reporting and to prohibit wasteful practices (see below).

New Water Use Targets (EO Items 2 and 6). Upon statutory authorization, the EO Agencies would adopt new water use standards for all urban water use and a new urban water use target methodology. Urban water suppliers would, in turn, be required to calculate their unique water use targets based on those standards and local conditions. The EO Agencies will establish provisional standards that are applicable starting in 2018, adopt the final standards by 2021, and require full compliance with final targets by 2025. The proposed standards and implementation are not intended to affect or otherwise limit any rights to water conserved under applicable law, including the California Water Code Section 1011.

Permanent Monthly Reporting (EO Item 3). The Water Board will open a rulemaking process to establish permanent monthly urban water reporting on water usage, amount of conservation achieved, and any enforcement efforts. The rulemaking will run through 2017, concurrently with EO Item 4, below.

Eliminate Water Waste

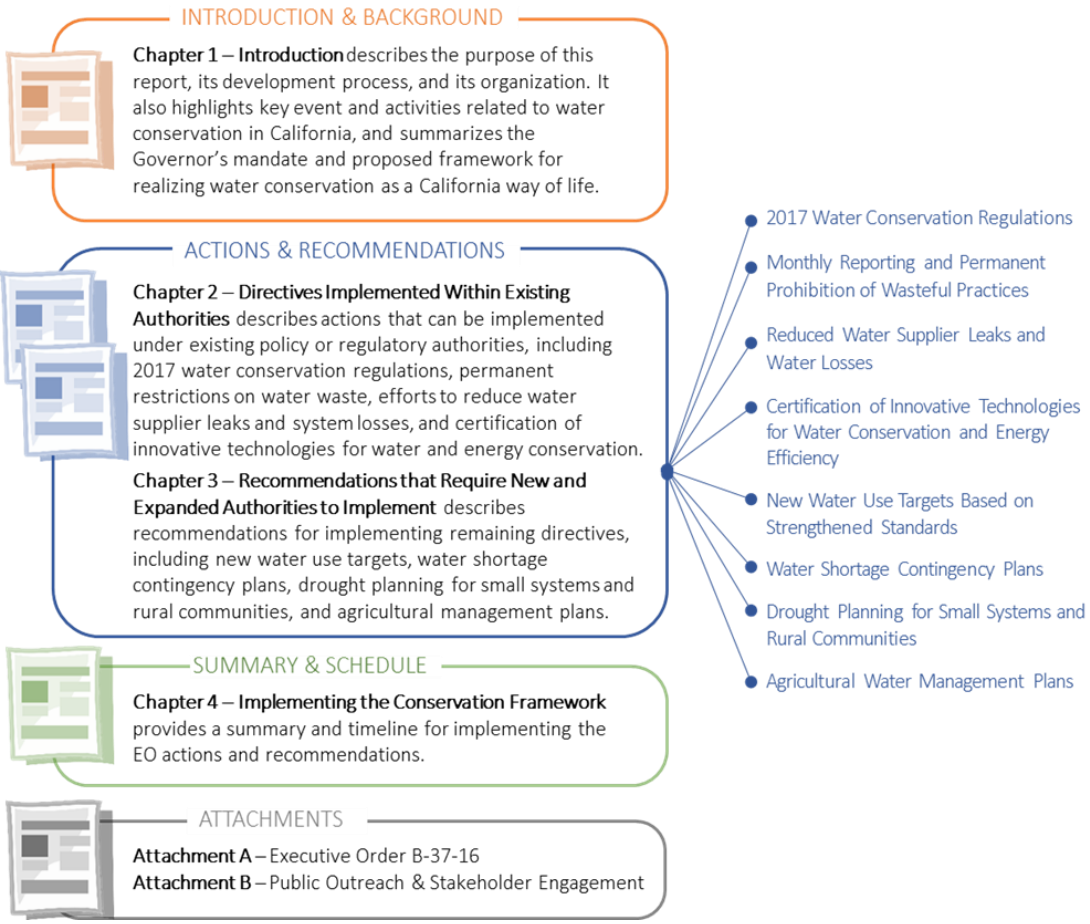
Water Use Prohibitions (EO Item 4). The Water Board will open a rulemaking process to establish permanent prohibitions on wasteful water practices, building on the current prohibited uses in the emergency regulation. The rulemaking will run through 2017, concurrently with EO Item 3, above.

Minimizing Water Loss (EO Items 5 and 6). The EO requires DWR and the Water Board to direct actions to minimize system leaks, accelerate data collection, improve system management, and prioritize capital projects that reduce water waste. The EO Agencies will meet the requirements of EO Items 5 and 6 through implementation of Senate Bill 555, along with additional actions to satisfy the Executive Order's directives related to reducing water supplier leaks. The implementation actions include adopting rules by DWR in 2017 for validated water loss audit report, establishing water loss performance standards by the Water Board by July 1, 2020, providing technical assistance for water loss audits, and offering financial assistance through the Drinking Water State Revolving Fund. The CPUC ordered large, investor-owned water utilities to accelerate work to minimize leaks by adopting Resolution W-5119 on December 1, 2016, to acknowledge the progress these utilities have made in keeping non-revenue water percentages stable and to encourage further work to accelerate actions to minimize leaks,

recognizing that system leaks are one component of non-revenue water. The CPUC may grant financial incentives for minimizing leaks during the review of each utility's upcoming General Rate Case application.

Innovative Water Loss & Control Technologies (EO Item 7). The CEC will continue to evaluate technologies for water loss detection and control and work with EO agencies and stakeholders to provide new information. The CEC is also making investments in research and funding programs for water saving devices and technologies.

Summary Report Organization



Strengthen Local Drought Resilience

Water Shortage Contingency Plans (EO Items 8, 9, and 6). Upon statutory authorization, urban water suppliers would be required to submit Water Shortage Contingency Plans and conduct 5-year Drought Risk Assessments every five years, and conduct and submit water budget forecasts annually. The EO Agencies would establish appropriate compliance and reporting criteria, and provide assistance to urban suppliers for meeting the requirements. Additional authorities would be required for successful implementation.

Drought Planning for Small Water Suppliers and Rural Communities (EO Item 10). The EO Agencies' recommendations focus on improving drought vulnerability assessment and proactive response actions, and supplier readiness and responsiveness during drought conditions. Currently, the recommendations focus on pathways for the EO Agencies to continue to work with cities, counties and stakeholders to develop more specific, functional recommendations, which are expected to continue into 2017. Additional authorities may be required for successful implementation.

Improve Agricultural Water Use Efficiency and Drought Planning

Strengthened Agricultural Water Management Plan Requirements (EO Items 11, 12, 13, and 6). Upon statutory authorization, each agricultural water supplier would be required to: (1) develop an annual water budget for the agricultural water service area, (2) identify agricultural water management objectives and implementation plans, (3) quantify measures to increase water use efficiency, and (4) develop an adequate drought plan for periods of limited supply. The EO Agencies recommendation would expand existing requirements to require agricultural water suppliers providing water to over 10,000 irrigated acres of land to prepare, adopt, and submit plans by April 1, 2021, and every five years thereafter. Expanded authorities would be required for successful implementation.

Actions and Recommendations Addressed in EO B-37-16 Summary Report, *Making Water Conservation a California Way of Life*

Chapter Section and Title where Item is Addressed	Executive Order Items													Within Existing Authorities (Chapter 2)	Requires New Authority (Chapter 3)
	Use Water More Wisely			Eliminate Water Waste				Strengthen Local Drought Resilience			Improve Agricultural Water Use Efficiency & Drought Planning				
	1	2	3	4	5	6	7	8	9	10	11	12	13		
2.1 Emergency Water Conservation Regulations for 2017	●													✓	
2.2 Permanent Prohibition of Wasteful Practices			●	●										✓	
2.3 Reduced Water Supplier Leaks and Water Losses					●	●								✓	
2.4 Certification of Innovative Technologies for Water Conservation and Energy Efficiency							●							✓	
3.1 New Water Use Targets Based on Strengthened Standards		●				●									✓
3.2 Water Shortage Contingency Plans						●		●	●						✓
3.3 Drought Planning for Small Systems & Rural Communities										●					✓
3.4 Agricultural Water Management Plans						●					●	●	●		✓

Note: The Executive Order directs DWR, Water Board, and CPUC to develop methods to ensure compliance with the provisions of the order, including technical and financial assistance, agency oversight, and, if necessary, enforcement action by the Water Board to address non-compliant water suppliers. These are described in Chapters 2 and 3.

More Information: http://www.water.ca.gov/wateruseefficiency/conservation/

Contact Us: WUE@water.ca.gov

Committee:	Water Conservation and Demand Management
Meeting Date:	04/27/17
Agenda Item No.:	4.4
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	15 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on the Sustainable Groundwater Management Act (SGMA)

RECOMMENDED ACTION:

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

SUMMARY:

The Sustainable Groundwater Management Act (SGMA) provides the District with various authorities to ensure groundwater sustainability. Per the District's 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP), the District will evaluate the regulation of pumping and collection of different fee types as potential tools that may be needed to ensure continued sustainability. The Board referred related stakeholder engagement to the Water Conservation and Demand Management Committee (Committee).

At the March 24, 2017 Committee meeting, staff presented general information on groundwater rights and reiterated the importance of considering related rights in the evaluation of new SGMA authorities. Regarding that evaluation, the Committee requested additional information on the timing, process, and ongoing stakeholder engagement. Staff is seeking the Committee's input on the updated stakeholder engagement plan related to the evaluation of new SGMA authorities (Attachment 1), which builds upon the previous plan supported by the Committee on January 25, 2017.

Staff will also provide an update on public comments received by DWR on the District's GWMP, which was submitted as an Alternative to a Groundwater Sustainability Plan (GSP). Six comment letters were submitted to DWR on the District's GWMP prior to the close of public comments on April 1, 2017 (Attachment 2). Attachment 3 includes the District responses to comments submitted prior to March 30, 2017. Staff is preparing responses to remaining comments and will provide those to the Committee when available.

BACKGROUND:

To meet SGMA requirements and DWR Emergency GSP Regulations, the District prepared the 2016 GWMP as an Alternative to a GSP. On November 22, 2016, the Board held a public hearing on the Draft GWMP and considered oral and written input from stakeholders. Following the public hearing, the Board adopted the GWMP and concurred with the staff recommendation to submit the GWMP as an Alternative by the January 1, 2017 statutory deadline. The Board emphasized an ongoing commitment to work closely with water retailers and other stakeholders on SGMA policy issues through the Committee, which has discussed SGMA monthly since December 2016. Comment letters received by the District during the GWMP public hearing and related responses were included as an appendix to the GWMP, which was submitted to DWR on December 21, 2016.

Per SGMA requirements, DWR provided a public comment period during which any interested person could submit comments on Alternative Plans via the DWR website at http://sgma.water.ca.gov/portal/alternative/all. The DWR public comment period for Alternative submittals closed on April 1, 2017. Public comment letters that were posted to the DWR website on the District's Alternative submittal are included as Attachment 2. Commenters included the San Jose Water Company, National Marine Fisheries Service, Stanford University (2 letters), Great Oaks Water Company, and The Nature Conservancy.

The District responses to comments submitted prior to March 29, 2017 are posted to the DWR website. These responses, along with the District response to the Stanford University letter dated March 29, 2017, are included as Attachment 2. Staff is preparing a response to comments submitted by Great Oaks Water Company and The Nature Conservancy submitted just before the DWR public comment period closed. The DWR website no longer accepts public comments or responses on Alternative submittals. However, the District is preparing responses to submit directly to the commenters and DWR. Staff will also provide related responses to the Committee when available.

ATTACHMENT(S):

Attachment 1: Stakeholder Engagement Plan (Updated April 2017)
Attachment 2: Public Comments Submitted to DWR on the District's Alternative to a GSP

- San Jose Water Company February 16, 2017 Comments (pages 1 to 41 of 81)
- Stanford University February 17, 2017 Comments (pages 42 to 47 of 81)
- National Marine Fisheries Service February 17, 2017 Comments (pages 48 to 51 of 81)
- Stanford University March 29, 2017 Comments (pages 52 to 53 of 81)
- Great Oaks Water Company March 30, 2017 Comments (pages 54 to 74 of 81)
- The Nature Conservancy April 1, 2017 Comments (pages 75 to 81 of 81)

Attachment 3: District Response to Comments Submitted to DWR Prior to March 30, 2017

- Response to San Jose Water Company February 16, 2017 Comments (pages 1 to 6 of 12)
- Response to Stanford University February 17, 2017 Comments (pages 7 to 9 of 12)
- Response to National Marine Fisheries Service February 17, 2017 Comments (pages 10 to 11 of 12)
- Response to Stanford University March 29, 2017 Comments (page 12 of 12)

Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities Stakeholder Engagement Plan (Updated April 2017)

The District is evaluating new SGMA authorities to determine how they may support long-term groundwater sustainability and to develop a related framework for implementation should they ever be needed. This stakeholder engagement plan describes how the District will involve water retailers and other interested stakeholders in the evaluation of new SGMA authorities.

Background

SGMA provides Groundwater Sustainability Agencies (GSAs), like the District, with various authorities to ensure groundwater sustainability. In November 2016, the District Board of Directors (Board) adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) following a public hearing. The GWMP acknowledges the need to involve stakeholders in the evaluation of new SGMA authorities in GWMP Section 1.4.2:

> "Potential new authorities under SGMA include the ability to regulate groundwater pumping and assess different types of groundwater charges. The District plans to evaluate these new authorities in cooperation with water retailers and other interested stakeholders and consider what conditions might necessitate their implementation to sustainably manage groundwater into the future."

Several water retailers submitted comment letters related to the GWMP public hearing expressing concern with the potential regulation of pumping and interference with water rights and retailer operations. Letters from both San Jose Water Company and Great Oaks Water Company included a proposed Memorandum of Agreement (MOA) between the District and public water retailers based on a shared governance approach. This draft MOA proposed the development of a Water Rights Committee composed of public water retailers and an at-large representative for other pumpers. The draft MOA proposed that this Water Rights Committee develop and implement plans to curtail or allocate pumping, if needed.

Pursuant to groundwater management authority granted by the Santa Clara Valley Water District (District Act), the District has sustainably managed groundwater for the benefit of the community for many decades. While the District maintains sole authority with regard to groundwater management, continued coordination and collaboration with water retailers and stakeholders will help ensure effective management of groundwater resources. New SGMA authorities may have significant implications for water retailers and are of interest to other basin stakeholders. In addition to considering potential groundwater management benefits from these tools, stakeholder input will be carefully considered.

Forum for Stakeholder Engagement

Prior to adopting the GWMP, the Board affirmed a continued commitment to working with stakeholders, and referred consideration of stakeholder engagement on SGMA authorities to the Board's Water Conservation and Demand Management Committee (Committee). Committee meetings are publicly-noticed and open to any interested person.

This forum allows for interested stakeholders to provide input directly to Board Committee members. Promoting dialog and exchange through this Committee ensures an open and transparent process as the District evaluates new SGMA authorities.

Stakeholder Notification

The District maintains a list of stakeholders interested in the development and implementation of the GWMP. The list of interested stakeholders includes water retailers, local land use agencies, regulatory agencies, adjacent water agencies, businesses, non-government organizations, agricultural users, and private individuals. Any person or entity can request to be included in this list, which is updated as needed.

The District notifies interested stakeholders of SGMA information for Santa Clara County, such as related District Board and Board committee items and relevant news such as the DWR time extension for public comments on Alternatives. District staff will also provide related updates to water retailers through meetings of the Water Retailers Committee and/or Groundwater Subcommittee.

Evaluation of New SGMA Authorities

Potential authorities to regulate pumping or collect different types of fees are complex and have limitations related to water rights, land use authorities, and regulatory requirements. Questions to be considered during the analysis of these authorities include:

- What basin conditions might trigger the use of SGMA authorities?
- Which specific SGMA tools are best suited to help ensure sustainability or further the District's ability to manage groundwater?
- How might these authorities be implemented – who would be affected, what actions would be required, etc.?
- What process or steps would be followed prior to implementing these tools?

Evaluation of new SGMA authorities will rely on a phased approach, with Committee and stakeholder input at various milestones as shown in Table 1 and described further below.

Table 1 – Schedule and Related Committee Items

Task	**Description**	**Planned Committee Date** (note, sequence organized by topic)
Evaluation of Groundwater Extraction Regulation	Overview of California Groundwater Rights	March 2017 (completed)
	Potential Basin Triggers Use of Similar Tools in Other Basins	June 2017
	Staff Analysis of Related Tools	August 2017
Evaluation of SGMA Fees	Discussion of Fixed and/or Tiered Fees	June 2017
	Staff Analysis of SGMA Fees	August 2017
Draft Implementation Framework	Discussion of Framework Concepts	October 2017
	Proposed Framework Discussion of Next Steps	December 2017

Regular updates on the evaluation will allow for timely review and input by the Committee and interested stakeholders as the evaluation progresses.

Evaluation of Groundwater Extraction Regulation

SGMA provides GSAs with various authorities related to the regulation of groundwater extraction, including the ability to:

- Impose spacing requirements on new well construction to minimize interference;
- Impose reasonable operating regulations on existing wells to minimize interference, including requiring extractors to operate on a rotation basis;
- Regulate, limit, or suspend groundwater extraction, construction of new wells, enlargement of existing wells, or reactivation of abandoned wells;
- Establish groundwater extraction allocations;
- Authorize temporary and permanent transfers of groundwater extraction allocations; or
- Establish rules to allow unused groundwater extraction allocations to be carried over from one year to another and voluntarily transferred.

SGMA acknowledges limitations related to controlling pumping. Local agencies are not authorized to make a binding determination of the water rights of any person or entity, and must also consider the land-use authority of cities and counties, which is not superseded by SGMA. The potential regulation of pumping is a complex and controversial topic that will require thoughtful analysis and meaningful exchange with those potentially affected.

This analysis phase will focus on evaluating new SGMA authorities in terms of what basin conditions might trigger the need for their use, how similar tools are used in other basins, which pumpers or well types might be subject to related requirements, what would be required for implementation (e.g., ordinance), and the expected benefits and drawbacks of various tools.

Due to the complexity of and interest in these authorities, separate Committee items will focus on groundwater rights, basin triggers and the use of related tools in other areas. These discussions will help inform the preliminary staff analysis, which will be included on a Committee agenda in August 2017 for review and input by the Committee and stakeholders.

Evaluation of SGMA Fees

SGMA allows GSAs to impose fixed fees and fees charged on a volumetric basis, including, but not limited to, fees that increase based on the quantity of groundwater produced annually, the year in which the production of groundwater commenced from a groundwater extraction facility, and impacts to the basin. As noted in the GWMP, fees imposed pursuant to SGMA must comply with applicable provisions of Proposition 218.

Currently, the District collects volumetric fees based on the quantity of groundwater produced in accordance with the District Act. The District will conduct a preliminary analysis of the various fees that can be collected pursuant to SGMA to determine if they further sustainable groundwater management or reduce volatility in revenue and rates.

Many local water retailers implement fixed and/or tiered fees. To help inform the District analysis, staff recommends that water retailers be invited to a Committee meeting to offer examples of their fixed or tiered fees, and share their perspective on how these fees are used and related benefits or considerations. District staff will also assess how other agencies have implemented these type of fee structures and report out at this meeting. This will help inform the

preliminary staff analysis, which will be included on a Committee agenda in August 2017 for review and input by the Committee and stakeholders.

Draft Implementation Framework

Staff plans to complete the technical analysis of tools by August 2017, with several related Committee items to provide for transparent discussion by the Committee and stakeholders. This analysis and discussion builds toward development of a draft implementation framework to identify the triggers and process for the implementation of these authorities, should they ever be needed. As discussed at Board and Committee meetings, the intent of this evaluation and framework is to allow for thorough and thoughtful consideration of these authorities when the basins are sustainable to avoid rushed development during a crisis.

A planned Committee item in October 2017 will allow for discussion of the concepts and structure of the draft implementation framework. For example, the proposed framework for discussion by the Committee and stakeholders is expected to range from voluntary, collaborative measures to more stringent, mandatory measures based on an increasing threat of harm to the groundwater subbasins. In developing the draft framework, staff will consider Committee and stakeholder input from previous phases, as well as concepts identified in the MOA proposed by San Jose Water Company and Great Oaks Water Company.

Staff plans to include the draft implementation framework on a Committee agenda item in December 2017 for review and input by the Committee and stakeholders. The Committee will provide direction to staff in terms of next steps regarding new SGMA authorities. This could include additional technical analysis, stakeholder engagement, or discussion with the full Board of Directors.

San Jose Water Company

110 W. Taylor Street
San Jose, CA 95110-2131

February 16, 2017

Trevor Joseph
Sup. Engineering Geologist
Sustainable Groundwater Management Chief
California Department of Water Resources
901 P. Street, Room 213
P.O. Box 942836
Trevor.Joseph@water.ca.gov
Sacramento, California 94236

Uploaded through SGMA's Alternative Portal and submitted via email to:
Trevor.Joseph@water.ca.gov

RE: San Jose Water Company's Comments on Santa Clara Valley Water District's Submitted Alternative Groundwater Sustainability Plan

Dear Mr. Joseph:

San Jose Water Company ("SJWC") presents these comments regarding Santa Clara Valley Water District's ("District") submission of its recently amended groundwater management plan ("GWMP") to the Department of Water Resources' ("DWR") as an alternative groundwater sustainability plan ("Alternative Plan") under the Sustainable Groundwater Management Act ("SGMA"). The District submitted this Alternative Plan on December 21, 2016 ("Submitted Alternative") for the Santa Clara Valley Groundwater Basin (DWR Basin No. 2-9.02) ("Basin") under SGMA and subsequent emergency regulations (23 CCR § 350 *et seq.*) ("GSP Regulations"), which allow a local agency governing a medium- or high-priority groundwater basin to forego developing a groundwater sustainability plan ("Plan") by submitting a "functionally equivalent" Alternative Plan that has been in existence since January 1, 2015 and demonstrates the ability to meet SGMA's goals and objectives.

SJWC is a public water system, regulated by the California Public Utilities Commission. SGMA requires Groundwater Sustainability Agencies ("GSA") to consider the interests of beneficial uses and users of groundwater. Those "interests" specifically include public water systems. (Wat. Code § 10723.2; see also CCR § 354.10(a).) SJWC was formed in 1866, and now provides a reliable water supply to more than 1 million people for largely domestic and municipal and industrial uses. (Wat. Code §106 (domestic use is the highest and best use).)

Through over a century of continuous beneficial use, SJWC has developed appropriative and prescriptive rights to groundwater in the Basin that it conjunctively uses in coordination with District programs. In reliance on these water rights, SJWC has made

substantial investments and developed groundwater infrastructure and well capacity sufficient to withdraw approximately 290,000 acre-feet per year from the Basin. These proprietary rights are statutorily protected against loss or diminishment through the actions of third parties. (Civ. Code § 1007.) Groundwater is a critical resource for SJWC and the broader community it serves. Accordingly, SJWC has a substantial interest in the shared governance and sustainability of this Basin and standing to contest DWR's approval of the Submitted Alternative.

As described more fully below, the Submitted Alternative does not meet the requirements of SGMA, nor of the GSP Regulations, and should not be accepted as an Alternative Plan by DWR.

I. General Comments on the District's Submitted Alternative

A. The Submitted Alternative is Not an Acceptable Alternative Under SGMA

SGMA sets forth three potential Alternative Plans that a local agency may submit in place of a Plan, including an existing GWMP developed pursuant to Part 2.75 of the Water Code or other law authorizing groundwater management. (Wat. Code § 10733.6.) The Water Code specifically prohibits, however, a new GWMP from being adopted, or an existing GWMP from being "renewed" or amended after January 1, 2015. (Wat. Code § 10750.1(a).) The Water Code further states that "this [prohibition] does not apply to a [GWMP] submitted as an [Alternative Plan] pursuant to Section 10733.6, unless the department has not determined that the alternative satisfies the objectives of [SGMA] on or before January 31, 2020, or [DWR] later determines that the [Alternative Plan] does not satisfy the objectives of that part." (Wat. Code § 10750.1(c).) Therefore, the Water Code prohibits a local agency from adopting or amending a GWMP until after DWR accepts the GWMP as functionally equivalent to a Plan. The rationale behind this rule is to avoid allowing GSAs to fast-track an existing groundwater management plan simply by updating it without allowing for sufficient coordination and collaboration with interested stakeholders, as mandated by SGMA.

In violation of this prohibition, the District amended its GWMP, originally adopted in 2012, on November 22, 2016, two days before Thanksgiving, and less than three weeks after it provided a draft for public review and comment on its website. It then submitted its amended GWMP to DWR as an Alternative Plan. As set forth above, however, the Water Code explicitly prohibits an amended GWMP from being submitted as an Alternative Plan under SGMA and only authorizes DWR to review and accept GWMPs adopted prior to January 1, 2015. Further, the District's hasty release and approval of the plan avoided any meaningful collaboration and coordination in violation of SGMA. For this reason, SJWC strongly urges DWR to reject the District's Submitted Alternative because its action undermines the SGMA objectives of coordination and collaboration.

B. The Submitted Alternative Undermines Collaboration Among Basin Stakeholders

In addition to being invalid for circumventing the prescribed process, the Submitted Alternative also disregards repeated efforts by the Basin's various water retailers to

directly collaborate with the District on the preparation and submittal of a Plan, or an Alternative Plan. Since July 2016, SJWC has repeatedly corresponded and met with the District to share its concerns over the adequacy of the District's GWMP, both prior to its amendment and as amended, and to suggest development and inclusion of a shared governance model in any Plan or Alternative Plan submitted to DWR. This proposal would not have required an amendment to the Submitted Alternative; rather, it would have constituted a further contemplated action. (*See* Wat. Code § 10723.6.) To this end, SJWC developed and presented to the District a draft memorandum of agreement and provided comments on the District's amended GWMP (attached hereto as Attachment A), which the District did not take into account prior to submitting its Submitted Alternative. These efforts at collaboration have been met with resistance from the District.

Instead, District representatives have pointed to past voluntary cooperation and coordination among the District and the Basin's other water retailers ("Water Retailers") as an example of how decisions *might* be made under SGMA. The District has also stated that it will start engaging stakeholders in 2017, but if DWR accepts the District's Submitted Alternative, any engagement will be too late. Because the District's process for making SGMA-related decisions is not set forth in the Submitted Alternative, SJWC is concerned that the District may elect to pursue actions independently and without regard to interests of the Water Retailers. In so doing, the District's actions may diminish the value and reliability of the Water Retailers' water rights and undermine their ability to meet the needs of their constituents.

II. **Comments on Specific Deficiencies in the Submitted Alternative**

If DWR decides to review the Submitted Alternative despite the late amendments to the plan, we have provided specific comments detailing how and why the Submitted Alternative with the included amendments is *not* the functional equivalent of a Plan. A summary of these key deficiencies is provided below. We have also added more detailed comments to the District's "Demonstration of Functional Equivalency," chart which it submitted to DWR to demonstrate the Submitted Alternative's functional equivalence to a Plan (see Attachment B).

A. The Submitted Alternative Fails to Comply with SGMA's Notice and Communication Requirements.

In order to be functionally equivalent to a Plan, the Submitted Alternative must include (1) an explanation of the District's decision-making process and (2) identification of opportunities for public engagement and a discussion of how public input and responses will be used. (23 CCR § 354.10(d)(1), (2).) The Submitted Alternative does not satisfy either of these requirements.

Although the Submitted Alternative includes a section titled "Groundwater Management Partners and Stakeholders," this section does not satisfy the requirement to provide an explanation of how the District will make decisions pertaining to groundwater management affecting the Basin's stakeholders, specifically the Water Retailers who hold water rights to the Basin's groundwater. The closest the Submitted Alternatives comes to describing the District's decision-making process is a statement that "[o]ngoing strong

partnership and collaboration will be essential to meet future water supply challenges." (Submitted Alternative, pp. 1-14, 1-15.) This hoped-for collaboration between the District and the Water Retailers, however, is contradicted by the Submitted Alternative's description of the role of Water Retailers in groundwater management, which makes no reference to any decision-making responsibility. (Submitted Alternative, p. 1-16.) No process is explained and no explanation is provided for how input and comments from Water Retailers will be used, if at all, when decisions are made that impact, or potentially impact, groundwater rights and Water Retailer operations. The District's failure to satisfy its notice and communication requirements undermines one of SGMA's key objectives—to ensure that groundwater management remains a collaborative, stakeholder driven process.

B. The Submitted Alternative Does Not Include a Current or Projected Water Budget for the Basin.

The GSP Regulations require Plans (and Alternative Plans) to provide a historical, current, and projected water budget for their basin(s). (23 CCR § 354.18.) Although the District's Submitted Alternative includes a historical groundwater budget identifying the average inflows and outflows from 2003 through 2012, it does not quantify this information for current inflows and outflows nor provides a projected water budget going forward. Inclusion of this information in any SGMA-authorized plan is necessary to provide the foundation for understanding the state of a basin and informing management activities and programs. The District's failure to provide a current or projected water budget for the Basin calls into question the remainder of the Submitted Alternative, including the District's assessment of the Basin's conditions and its proposed management actions.

C. The Submitted Alternative Fails to Define Undesirable Results.

One of SGMA's key objectives is the avoidance of undesirable results. To prevent undesirable results, they must first be expressly identified. It is actually hard to imagine a valid Plan under SGMA that does not identify the undesirable results that the management strategy aspires to avoid or minimize. Indeed, this is the entire objective of SGMA: manage basins for sustainability to avoid harm.

The GSP Regulations outline the requirements governing how undesirable results should be defined; including requiring a local agency to describe the process and criteria relied upon to define and quantify undesirable results for its specific basin. (23 CCR § 354.26.) Although the District's "Demonstration of Functional Equivalency" chart references multiple chapters in the Submitted Alternative complying with this requirement, the Submitted Alternative never actually uses the term "undesirable results," or sets forth the groundwater conditions from which they would occur. While the Submitted Alternative discusses storage levels, water quality indicators, and subsidence, the District does not describe: (1) the "processes and criteria relied upon to define undesirable results;" (2) the "cause of groundwater conditions…that would lead to...undesirable results;" (3) the "criteria used to define when and where the effects of groundwater conditions cause undesirable results;" (4) and whether some undesirable results "are not present and are not likely to occur…." (23 CCR § 354.26.) The failure to satisfy this cornerstone requirement

of SGMA means DWR should summarily reject the Submitted Alternative as functionally equivalent.

D. The Submitted Alternative Does Not Satisfy the GSP Regulation's Requirements for the Establishment of Minimum Thresholds.

In order to be functionally equivalent, the GSP Regulations require that an Alternative Plan establish quantitative minimum thresholds for each sustainability indicator present in a basin. (23 CCR § 354.28.) Although the Submitted Alternative establishes basin-wide "key performance measures" that the District refers to as "outcome measures" for four of the six SGMA-defined undesirable results, it fails to demonstrate why the other two undesirable results—depletions of interconnected surface water and chronic lowering of groundwater levels—are not present in the basin and thus do not need to be addressed.

The GSP Regulations also require an Alternative Plan to include additional information regarding how and why the minimum thresholds were established. This must include how the minimum thresholds in each sub-basin have been selected to avoid causing undesirable results in the adjacent sub-basin and how the minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests overlying the Basin. The Submitted Alternative fails to address ***any*** of these requirements. For these reasons, DWR should find that the Submitted Alternative is not functionally equivalent.

E. The Submitted Alternative Fails to Establish Measurable Objectives.

In addition to undesirable results and minimum thresholds, the GSP Regulations also require an Alternative Plan to establish and describe quantitative measurable objectives for the Basin. The Submitted Alternative does not even attempt to address this requirement. Based on the District's "Demonstration of Functional Equivalency" chart (submitted with its Submitted Alternative), the District appears to believe that this requirement is not applicable, or "N/A," to the Basin. The District does not provide any justification for why the Basin, or itself, may be exempt from complying with this requirement. Based on this lack of compliance, DWR must find the Submitted Alternative is not functionally equivalent.

F. Monitoring Network Described in Submitted Alternative Does Not Meet Requirements of GSP Regulations.

Another important requirement set forth in the GSP Regulations is the inclusion of a robust monitoring system in order to keep abreast of changing conditions in the basin and react accordingly to ensure that the basin is sustainably managed. Although the Submitted Alternative includes a chapter devoted to describing the District's monitoring network, the monitoring network still falls short of the requirements in the GSP Regulations. For example, although the monitoring network monitors groundwater levels throughout the basin, it does not appear to be designed to monitor all of the additional elements required by the GSP Regulations, including: groundwater flow directions, hydraulic gradients, depletions of interconnected surface waters, and changes in annual groundwater storage. Instead, the Submitted Alternative attempts to skirt these monitoring requirements without explaining why they are unnecessary or inapplicable to the Basin. The Submitted

Alternative also fails to satisfy the requirement in the GSP Regulations to provide information about the District's monitoring protocols, technical standards, and data collection methods.

The Submitted Alterative also fails to identify data gaps in the District's monitoring network. As noted in our comments above, however, there are many deficiencies in the District's current monitoring network. The District's failure to describe a functionally equivalent monitoring system, or to identify any data gaps within its monitoring network, weighs against the Submitted Alternative satisfying the functionally equivalent standard.

III. **Conclusion**

Based on a fair review of the District's Submitted Alternative—and as described above—the Submitted Alternative does not qualify as an eligible Alternative Plan under SGMA and it is not functionally equivalent to a Plan developed under the GSP Regulations. For these reasons, DWR must reject the Submitted Alternative as an ineligible submission, or alternatively, find that the Submitted Alternative fails to meet the substantive standards of SGMA. While SJWC remains committed to the long-term sustainable management of groundwater, SGMA requires better definitions and firmer commitments than those set forth in the District's Submitted Alternative. In the end, a Plan that fosters collaboration and coordination among Water Retailers and the District is far more likely to achieve SGMA's statutory objectives.

Sincerely,

Andrew R. Gere, P.E.
President and Chief Operating Officer

cc: Timothy Guster, Great Oaks Water Company
Jim Simunovich, California Water Service Company
Gary Kremen, District Board Member
John Varela, District Board Chair
Linda LeZotte, District Board Member
Nai Hsueh, District Board Member
Richard Santos, District Board Member
Tony Estremera, District Board Member
Barbara Keegan, District Board Member
Norma Camacho, District CEO
Jim Fiedler, District COO

San Jose Water Company

110 W. Taylor Street
San Jose, CA 95110-2131

November 18, 2016

Santa Clara Valley Water District
Attention: Barbara Keegan, Board Chair
5750 Almaden Expressway
San Jose, CA 95118-3686

Re: Submittal of an Alternative Plan Pursuant to the Sustainable Groundwater Management Act

Dear Ms. Keegan:

After more than a century without comprehensive groundwater regulation in California, the Legislature adopted the Sustainable Groundwater Management Act (SGMA), effective January 1, 2015, and established criteria for the adoption of Groundwater Sustainability Plans (GSPs). As the designated Groundwater Sustainability Agency (GSA) under SGMA, the Santa Clara Valley Water District (District) was empowered to either prepare a GSP in compliance with SGMA[1] or submit an existing Alternative Plan that meets all the requirements of SGMA as the functional equivalent required by Articles 5 and 7 of the Department of Water Resources' (DWR) SGMA Regulations.[2] The Alternative Plan must fully "demonstrate the ability of the Alternative to achieve the objectives of the Act."[3]

San Jose Water Company (SJWC) writes to express our support for sustainable groundwater management and the District moving forward with an Alternative Groundwater Sustainability Plan (Alternative Plan). However, we must also make you aware of our opposition to the District's submitting its 2012 Ground Water Management Plan (GWMP), with amendments,[4] as an Alternative Plan without your having first concurrently embraced the important role of the region's Public Water Systems (Water Systems)[5] in the shared oversight of

[1] SGMA and related regulations (jointly referred to as "SGMA Requirements").
[2] Cal. Code Regs. (CCR) Tit. 23, Div. 2, Ch. 1.5, Sub Ch. 2, approved by the California Water Commission on May 18, 2016.
[3] 23 CCR 358.2(d).
[4] According to SGMA, however, "[b]eginning January 1, 2015, a new [GWMP] shall not be adopted and an existing [GWMP] shall not be renewed pursuant to [the Water Code]." (Wat. Code § 10750.1.)
[5] "Public water system" has the same meaning as defined in Section 116275 of the Health and Safety Code (Wat. Code § 10721(s)), which defines "Public water system" as "a system for the provision of water for human consumption through pipes or other constructed conveyances that has 15 or more service connections or regularly serves at least 25 individuals daily at least 60 days out of the year." Health & Safety Code, § 116275.

certain provisions that ensure sustainability.[6] We believe this shared responsibility among the Water Systems will enable the District to adopt effective sustainability goals, while also allowing those assuming the greatest burden and interest in a successful outcome the opportunity to develop the strategy for achieving compliance.

Incorporated in 1866, SJWC is a public water system, regulated by the California Public Utilities Commission (CPUC), and has an approved Urban Water Management Plan. It has faithfully discharged its duty to provide a high quality and reliable water supply to more than 1 million people. In furtherance of this duty, it has developed a portfolio of water supplies and efficiently managed the distribution of its water for over 150 years. No water supply is more important to SJWC and the broader community it serves than its groundwater.

Toward that end, SJWC has developed appropriative and prescriptive rights to groundwater that it conjunctively uses in coordination with the District's programs as a private steward of an important public resource. In reliance on these vested proprietary water rights, SJWC has made substantial investments and developed groundwater infrastructure and well capacity sufficient to withdraw approximately 290,000 acre-feet in a single year.

Since July 2016, we have repeatedly corresponded and met with District management and staff[7] in a good faith effort to share our concerns over the adequacy of the GWMP and to suggest a shared governance model among Water Systems that may facilitate the approval of the GWMP by DWR and will improve its efficacy. Specifically, the GWMP fails to acknowledge the proprietary groundwater rights held by the Water Systems within the management area (including SJWC) and the need to directly involve such systems in defining responsive actions consistent with their vested rights.[8] SGMA requires GSAs to consider the interests of beneficial uses and users of groundwater. Those interests specifically include Water Systems.[9] Consequently, the GWMP is not yet a functional equivalent of a GSP as required under applicable law. Even if it were, it holds open the question of future enforcement and will serve to undermine future planning and water supply development.

The Legislature has clearly declared that sustainable groundwater management must respect proprietary rights to groundwater.[10] In fact, it was the expressed intent of the Legislature to "preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater."[11]

SGMA requires management of groundwater within the sustainable yield of the basin.[12] GSPs and functionally equivalent Alternative Plans must have mechanisms to ensure

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[6] Wat. Code § 10735.2(a)(3)-(5)
[7] July 7, 2016 correspondence; 2016 Meetings: September 9, October 7, 12 and 20.
[8] While the Amended Plan acknowledges that pursuant to SGMA, local agencies may not determine water rights in regulating pumping, it does not define the proprietary water rights in the Basin, explain how these rights will be protected, or what the process will be to respect those rights.
[9] Water Code§ 10723.2.
[10] Wat. Code § 113(b)(4); Wat. Code § 10720(b)(4).
[11] Wat. Code § 10720.1(b).
[12] Wat. Code § 10721(v).

sustainability,[13] and the District's GWMP is lacking. If the District adopts a sustainable yield and ultimately corresponding methods to limit groundwater production within the plan area, then the burden of implementing strategies will be borne almost entirely by the sovereign Water Systems. These Water Systems have already dedicated this groundwater to a public use and have accrued proprietary groundwater rights.[14] Either a future amendment to the GWMP will address the subject of plan enforcement and its consistency with these vested rights, or a court is likely to do so. We believe the Water Systems, pursuant to a memorandum of agreement with the District, can collaboratively develop water budgets and curtailment strategies that will provide certainty and enhance efficient use.

Under the District's GWMP, Water Systems within the planning area are forced to guess as to how and when the District will move to adopt provisions to ensure sustainability that may dramatically impact their ability to plan and provide water service to their customers in the future. This uncertainty adds to the lack of regional water supply reliability, and will result in increased costs and waste, and is otherwise contrary to the public interest.

Despite requests from SJWC and other Water Systems, the District has not stated what actions it will take to ensure that sustainability objectives are achieved, or provided assurance that its actions will be consistent with vested water rights and, thus far it has been unwilling to acknowledge that measures that curtail the quantity of available groundwater are best left to the entities with the primary responsibility for distribution of groundwater. **We ask that the District agree now to a shared governance among Water Systems on the question of how any allocation of groundwater or curtailing use be borne and implemented.[15] Only this way can the District ensure that its achievement of a sustainability goal will be consistent with the vested rights cumulatively held by these entities and not resisted by them at a later date.**

Specifically, in reviewing the District's GWMP and comparing it to the standards of a GSP,[16] we wish to point out the following deficiencies:

- **Failure to Describe Basin Conditions in Required Detail.** The District's GWMP fails to describe the current status and conditions of the Santa Clara Sub-basin (Basin) with the level of detail mandated by the SGMA Requirements. The GWMP's multiple maps and other graphics depicting the Basin also fall short of providing the required information and details. These basic deficiencies suggest that the GWMP lacks sufficient baseline data to successfully, and sustainably, manage the Basin pursuant to the SGMA Requirements.

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[13] 23 CCR 354.24 requires that "[t]he [GSP] shall include a description of the sustainability goal, including information from the basin setting used to establish the sustainability goal, [and] a discussion of the measures that will be implemented to ensure that the basin will be operated within its sustainable yield."

[14] These rights are statutorily protected against loss or diminishment by third-party conduct. Civ. Code § 1007; *see Wright v. Goleta Water District* (1985) 174 Cal.App.3d 71.

[15] A proposal for shared public water system governance by a Memorandum of Agreement is attached hereto.

[16] 23 CCR 358.2(d).

- **No Express Identification of Basin's Beneficial Users.** The District's GWMP fails to specifically identify individual beneficial users of the Basin's groundwater resources, which is required under the SGMA Requirements. Failure to identify specific Basin users also indicates that the District's GWMP lacks important, and required, data about the status of the Basin's groundwater supplies. It also may result in incomplete and an unfair distribution of enforcement burdens and one that fails to honor and protect vested rights.

- **Failure to Include Basin's Projected Water Budget.** To be functionally equivalent, a GWMP must include a basin's water budget under historical, current and future conditions. Although the District's GWMP includes a graphic illustrating the Basin's historical average annual water budget, this graphic does not include the information nor level of detail required under the SGMA Requirements. The GWMP does not include any discussion regarding the quantification of the Basin's current or future groundwater budget nor provide whether there are limitations on expanded or even existing production.

- **GWMP Fails to Identify All Required Undesirable Results or Establish Sufficient Minimum Thresholds.** Although the District's GWMP briefly identifies multiple undesirable results present in the Basin, discussion of these conditions is insufficient to meet the SGMA Requirements. In addition to this deficiency, the District's GWMP also fails to quantify current groundwater conditions and establish adequate minimum thresholds to determine when conditions in the Basin necessitate action. The four "Outcome Measures" in the Amended Plan do not meet the extensive requirements for minimum thresholds and measurable objectives for each applicable sustainability indicator. Failure to satisfy this cornerstone requirement of SGMA means that the District's GWMP is not functionally equivalent.

- **No Identification of GWMP's Data Gaps.** To be deemed functionally equivalent, a GWMP is required to identify both uncertainty and existing gaps in the data that informs the hydrogeological model within the SGMA Requirements. The District's GWMP fails to expressly identify any data gaps within either its monitoring network or the data provided about the Basin, which is a key requirement under the SGMA Requirements.

Although the District's recent draft amendment to its GWMP attempts to address these deficiencies in its 2012 GWMP, it does not fully satisfy SGMA's requirements. Moreover, SGMA prohibits local agencies in medium- and high-priority basins from adopting a new GWMP or

amending an existing GWMP as of January 1, 2015.[17] A fair reading of the plain meaning of Water Code § 10750.1(a) suggests that an amended GWMP is not eligible for consideration as an Alternative Plan.

As stated above and in all of our prior communications, SJWC supports sustainable groundwater management. We agree the District is best situated to develop sustainability goals. However, allocating groundwater among interests and requiring curtailment to achieve sustainability goals is a matter that is best left to the vested right holders in the planning area.

Based upon our review of the District's GWMP—and as described above—we do not believe the GWMP qualifies as an Alternative Plan. It does not provide sufficient clarity as to how the GWMP will result in sustainable management or how water budget/allocations will be addressed and any curtailment enforced.

Should the District move forward with submitting its GWMP as an Alternative Plan without first acknowledging the need for shared governance on the key areas of water budget/allocations and curtailment, we are prepared to submit a comprehensive comment letter to DWR detailing the GWMP's lack of functional equivalency as summarized above and stating our opposition to its adoption at this time.

SJWC urges the District Board of Directors to defer adoption of an amended GWMP until its deficiencies are corrected and the shared governance issues identified in this letter are appropriately addressed and incorporated into the plan. SJWC looks forward to the cooperation of the District to resolve these concerns and stands ready to help develop workable solutions that balance the needs and rights of Water Systems with achieving the important basin sustainability goals required by SGMA.

Respectfully,

Andrew R. Gere, P.E.
President and Chief Operating Officer

Cc: Gary Kremen, District Board Member
John Varela, District Board Member
Linda LeZotte, District Board Member
Nai Hsueh, District Board Member
Richard Santos, District Board Member
Tony Estremera, District Board Member
Norma Camacho, District CEO
Jim Fiedler, District COO

[17] Wat. Code § 10750.1(a)

**MEMORANDUM OF AGREEMENT ("MOA")
BETWEEN PUBLIC WATER RETAILERS AND THE SANTA CLARA VALLEY WATER DISTRICT ("DISTRICT") REGARDING THE IMPLEMENTATION OF THE 2012**

Public Water Retailers are "public water systems" that produce groundwater within Santa Clara County and are required to prepare and file Urban Water Management Plans ("UWMP") with the California Department of Water Resources;

WHEREAS, the District is a multi-purpose water management district with the powers set forth in its authorizing act and is the agency designated as the Groundwater Sustainability Agency ("GSA") for purposes of preparing a Groundwater Sustainability Plan ("GSP") and implementing the California Sustainable Groundwater Management Act ("SGMA") within Santa Clara County for the Santa Clara and Llagas subbasins ("subbasins");

WHEREAS, since the 1930's, the District's water supply strategy has been to maximize conjunctive use, the coordinated management of surface and groundwater; [1]

WHEREAS, Tables ES-1 and ES-2 of the District 2012 Groundwater Management Plan ("2012 GMP") acknowledge the shared responsibility and cooperation with others that is required to effectively manage groundwater within these areas;[3]

WHEREAS, Section 2.2 of the 2012 GMP states that "[n]early half of the water used in Santa Clara County is pumped from groundwater, one of the county's greatest natural resources," and that UWMP of the public water systems demonstrate that these water retailers show a continued reliance upon groundwater to meet the needs of their customers;[4]

WHEREAS, Section 1.3 of the 2012 GMP reflects the District's intention to be a regional partner in groundwater management;

WHEREAS, Section 4.1.4 of the 2012 GMP acknowledges that the subbasins in Santa Clara County are not adjudicated and the District does not legally control the operation of groundwater wells or the amount of groundwater that wells can produce;

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[1] 2012 Groundwater Management Plan, ES-1.
[3] 2012 Groundwater Management Plan, Tables ES-1 and ES-2.
[4] 2012 Groundwater Management Plan, Section 4.1.5 and 1.3.

WHEREAS, a key component of the water supply reliability performance under the 2012 GMP and approved UWMP depends on the cooperation between the District and its water retailers, which is "critical during times of shortage;"[5]

WHEREAS, the District resolved to continue and enhance further groundwater management partnerships;[6]

WHEREAS, the District has announced its intention to submit its 2012 GMP as an Alternative Plan in lieu of a GSP in compliance with SGMA, and to qualify Alternative Plans must fulfill the objectives of a GSP;

WHEREAS, groundwater management pursuant to SGMA must be consistent with Section 2 of Article X of the California Constitution and nothing within SGMA may modify the priorities of common law water rights[7] and the statutory protection of those rights;[8]

WHEREAS, SGMA requires GSAs to consider the interests of beneficial uses and users of groundwater within the plan area and those "interests" specifically include public water systems[9]; and

WHEREAS, SGMA provides that a GSA may implement a plan pursuant to legal agreement in a manner consistent with Recommendation 7-5 of the District 2012 GMP, pursuant to an MOA.

NOW THEREFORE, the Parties hereby agree that a Water Rights Committee with the foregoing powers and authority shall be formed to guide implementation of the 2012 GMP as an Alternative Plan or a GSP as either the 2012 GMP or GSP may be amended and approved by DWR from time to time.

1. Water Rights Committee.

A "Water Rights Committee" ("WRC") is hereby established by written agreement among the signatory Water Retailers and the District. This WRC will wield the responsibility for coordinating and facilitating implementation of the 2012 GMP or a GSP (collectively hereinafter the "SGMA Plan") with regard to the following subjects in the manner described:

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[5] 2012 Groundwater Management Plan, Section 4-1-4 at p. 4-5.
[6] 2012 Groundwater Management Plan, Recommendation: 7-3(5) at pp. 7.4-7.5
[7] Water Code § 10720.5.
[8] See. e.g. Civil Code § 1007, Water Code §§ 106, 106.5; Public Utilities Code § 851.
[9] Water Code § 10723.2; Section 354.10 of the GSP Regulations ("Notice and Communication").

(a) Curtailment/Apportionment. In the event that either the District determines that curtailment of groundwater production or an apportionment of groundwater (allocation) within the subbasins is required to avoid causing undesirable results under a SGMA Plan, then:

(i) The District will notify the WRC in writing of the need for a curtailment/apportionment plan to avoid causing undesirable results;

(ii) At any time on its own initiative, the WRC may, or within twelve (12) months of its receipt of written notice from the District, the WRC will prepare a curtailment/apportionment plan;

(iii) The methodology to curtail existing extractions or apportionment of groundwater shall be developed by the WRC in its complete discretion;

(iv) Any WRC curtailment/apportionment plan shall be presented to the District for its consideration and inclusion in any SGMA Plan;

(v) The District will accept and include the WRC curtailment/apportionment plan developed by the WRC in the SGMA Plan unless, after a good faith evaluation, the District finds that the WRC allocation/curtailment plan, including proposed mitigation measures, do not provide reasonable assurance that "undesirable results" will be avoided;

(vi) In the event the District disagrees with the WRC curtailment/apportionment plan pursuant to (v) above, the District may seek to set aside the adoption of the WRC plan pursuant to Code of Civil Procedure (CCP) § 1085;

(vii) The Parties will exercise good faith and reasonable efforts to coordinate the implementation of any interim measures required to protect against "undesirable results" during the WRC's development of a curtailment/apportionment plan;

(viii) If after twelve (12) months from the date of the District's notice required in paragraph (a)(i) above, the WRC fails to complete a curtailment/apportionment plan and present the plan to the District for approval, then the District may prepare its own curtailment/apportionment plan. If the WRC disagrees with the District's plan, then the WRC may seek to set aside the adoption of the District's curtailment/apportionment plan pursuant to CCP § 1085.

(b) Transfer and Carry-Over. If water allocations are created pursuant to section 1(a) of this MOA, the WRC may, in its complete discretion, develop a transfer and carry-over plan further implementing a SGMA Plan that will establish rules and conditions for the transfer, conservation, and carry-over of any unused allocation between and among the public water systems.

(i) The WRC will notify the District in writing of its intent to prepare a transfer and carry-over plan, and thereafter the WRC will exercise good faith and reasonable diligence in preparing a transfer and carry-over plan;

(ii) The methodology for transfer and carry-over of any allocations shall be developed by the WRC in its complete discretion, subject to the express requirement that the transfer and carry-over plan will not cause or threaten to cause unmitigated "undesirable results;"

(iii) The District will accept and include a WRC transfer and carry-over plan in the SGMA Plan unless, after a good faith evaluation, the District finds that the WRC transfer and carry-over plan, including proposed mitigation measures, do not provide reasonable assurances against causing or threatening to cause "undesirable results;"

(iv) In the event the District disagrees with the WRC transfer and carry-over plan pursuant to (b)(iii) above, the District may seek to set aside the adoption of the WRC plan pursuant to CCP § 1085.

(c) Storage and recovery of imported water. The District will submit any plan that will limit or condition the ability of public water systems to import foreign (out of County, out of watershed) supplemental water into the subbasins for storage and recovery by the public water systems to the WRC for its review and consideration.

(i) The District will provide written notice to the WRC of its intent to prepare a storage and recovery plan;

(ii) The storage and recovery plan shall not impair the operating ability of a public water system or cause or threaten to cause "undesirable results;"

(iii) The District will seek the WRC's approval of any storage and recovery plan prior to inclusion in any SGMA Plan;

(iv) If the WRC disagrees with the District's plan, then the WRC may seek to set aside the District's adoption of its storage and recovery plan pursuant to CCP § 1085;

(v) Alternatively, if the District has not issued a notice of its intention to prepare a storage plan pursuant to (c)(i) above, the WRC may independently develop a plan for the storage and recovery of imported water to enhance local water supply reliability. The WRC will present any WRC plan for the storage and recovery of water to the District for inclusion in a SGMA Plan. The District will accept and include the WRC storage and recovery plan unless, after a good faith

evaluation, it finds that storage and recovery of imported water will cause or threatens to cause "undesirable results" or will directly interfere with existing District operations or replenishment programs;

(vi) The WRC may challenge the District's decision not to include the storage and recovery plan in a SGMA Plan pursuant to CCP § 1085.

(d) Well Permits / Well Location. The District will not restrict or seek to regulate a public water system's ability to produce groundwater for public consumption by an existing, replacement or new well unless there is a direct and immediate threat to the health, safety and welfare that is separate, discrete and distinguishable from groundwater production in the subbasin as a whole. If the District determines in its discretion that such an immediate and direct threat to the health, safety, and welfare of the community exists, it may act by an urgency ordinance to reasonably condition the new wells but only for so long as the actual emergency condition exists. The District will exercise good faith and reasonable efforts to coordinate with the WRC to develop a consensus on reasonable conditions to protect public health and safety and to avoid undesirable results. The WRC may challenge the District's plan to limit or condition well permits and well location pursuant to CCP §1085.

2. Water Rights Committee Representation.

The WRC shall be comprised of representatives appointed by each of the Public Water Retailers and drawn from its membership.

Voting: Except as specifically otherwise provided herein, the vote of a majority of the members of the WRC present at any regular, adjourned or special meeting shall be sufficient to pass or act upon any matter properly before the WRC, and each member of the WRC shall have one vote.

Groundwater Weighted Voting: Upon the call and request of any WRC member, present and able to vote, and a quorum being present, a weighted voting formula shall apply for any vote to be taken by the WRC, with each member having one or more votes based upon the groundwater pumping set forth in Exhibit A. In order for the WRC to take action under the provisions of this section two requirements must be fulfilled:

a) A majority of the votes weighted by groundwater pumping must be cast in favor of the action, provided that not less than two member agencies vote in favor of the action; and

b) A majority of the members vote in favor of the action. In the event a simple majority vote on a question has previously been taken, and a weighted vote is subsequently called; a roll call vote will be taken that tabulates both the weighted vote and the members voting. The vote weighted by a majority of

those voting representing a majority of the groundwater pumping shall supersede the previous simple majority vote, provided that the vote of a single member may not defeat an action.

Groundwater Pumping: For the purposes of determining the weighted vote of water retailers or the At-Large representative, the weighted vote by groundwater use shall be based on the historical groundwater pumping range set forth in Exhibit A, which may be updated annually by the WRC to reflect the actual increase in a WRC member's groundwater use.

The Public Water Retailers agree to form the WRC by January 15, 2017.

(a) Quorum. A majority of the voting power of the WRC shall constitute a quorum for the transaction of affairs and the approval or disapproval of plans and actions set forth in paragraph 1(a)-1(d) above. Any action or recommendation of the WRC shall be transmitted to the District in writing.

(b) Organizational Meeting. At its first meeting each year, the WRC shall elect a chairperson and vice-chairperson from its membership. It shall also elect a secretary and treasurer as may be appropriate, and the positions need not be from its membership.

(c) The WRC shall conduct its business in accordance with Robert's Rules of Order and the California Open Meetings Law, and shall establish further governing rules and procedures as may be necessary and convenient for the WRC.

4. Binding on All Plans.

The commitments set forth in this MOA shall apply to any SGMA Plan.

5. Effective Date.

The MOA is effective upon execution of the Parties.

EXHIBIT A

Method: All Retailers Represented with Weighting except that use <400 AFY[1].
One At-Large representative to be appointed from among parties that use <400 AFY.

Retailer	# of Votes	Range in AF		# of Votes
San Jose Water Company	10	55,800	62,000	10
Santa Clara	3	49,600	55,800	9
Great Oaks[2]	3	43,400	49,600	8
Gilroy	2	37,200	43,400	7
Morgan Hill	2	31,000	37,200	6
Cal Water	1	24,800	31,000	5
Sunnyvale	1	18,600	24,000	4
San Jose	1	12,400	18,600	3
Mountain View	1	6,200	12,400	2
		0	6,200	1
Total				

ɜ = Total GW/#votes
Total GW = 155,000
ɔtes = 25

GROUNDWATER USE IN AF

	2010 UWMP	% Total
San Jose Water Company	60,500	39.0%
Santa Clara	14,800	9.5%
Great Oaks	12,300	7.9%
Gilroy	8,500	5.5%
Morgan Hill	7,800	5.0%
Cal Water	5,200	3.4%
Sunnyvale	1,200	0.8%
San Jose	400	0.3%
Mountain View	400	0.3%
Stanford	200	0.1%
Independent Santa Clara	9,800	6.3%
Independent Coyote Valley	5,000	3.2%
Independent Llagas	28,900	18.6%
Total	155,000	100.0%

[1] SCVWD 2010 UWMP
[2] Great Oaks rounded up to 12,400

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DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
Article 5. Subarticle 1: Administrative Information			
Introduction to Administrative Information (§ 354.2)			
§ 354.2	This Subarticle describes information in the Plan relating to administrative and other general information about the Agency that has adopted the Plan and the area covered by the Plan.	§§ 1.2, 1.3	
General Information (§ 354.4)			
§ 354.4(a)	Each Plan shall include the following general information: (a) An executive summary written in plain language that provides an overview of the Plan and description of groundwater conditions in the basin.	Executive Summary	
§ 354.4(b)	(b) A list of references and technical studies relied upon by the Agency in developing the Plan. Each Agency shall provide to the Department electronic copies of reports and other documents and materials cited as references that are not generally available to the public.	References	
§ 354.6(a)	When submitting an adopted Plan to the Department, the Agency shall include a copy of the information provided pursuant to Water Code Section 10723.8, with any updates, if necessary, along with the following information: The name and mailing address of the Agency.	§ 1.1	
§ 354.6(b)	The organization and management structure of the Agency, identifying persons with management authority for implementation of the Plan.	§§ 1.1, 1.3	
§ 354.6(c)	The name and contact information, including the phone number, mailing address and electronic mail address, of the plan manager.	§ 1.1	
§ 354.6(d)	The legal authority of the Agency, with specific reference to citations setting forth the duties, powers, and responsibilities of the Agency, demonstrating that the Agency has the legal authority to implement the Plan.	§ 1.3	Although the Submitted Alternative identifies various legal authorities authorizing the District to undertake groundwater management generally, it fails to acknowledge that its Submitted Alternative—a recently amended GWMP—does not fall within one of the three potential types of Alternative Plans identified in SGMA. Under SGMA, local agencies in medium- or high-priority basins (such as the Basin) are explicitly prohibited from adopting a new GWMP or amending an existing GWMP after January 1, 2015. (Wat. Code § 10750.1.) The District's Submitted Alternative, therefore is not eligible for

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
			acceptance by DWR as an Alternative Plan because it was amended in 2016.
§ 354.6(e)	An estimate of the cost of implementing the Plan and a general description of how the Agency plans to meet those costs.	§ 1.3	Although the Submitted Alternative identifies an annual budget for one of the District's numerous divisions, it does not provide any information as to an estimate of the cost of implementing the Submitted Alternative, or a general description of how the District plans to meet those costs.
Description of Plan Area (§ 354.8)			
§ 354.8(a)	Each Plan shall include a description of the geographic areas covered, including the following information: (a) One or more maps of the basin that depict the following, as applicable: (1) The area covered by the Plan, delineating areas managed by the Agency as an exclusive Agency and any areas for which the Agency is not an exclusive Agency, and the name and location of any adjacent basins. (2) Adjudicated areas, other Agencies within the basin, and areas covered by an Alternative. (3) Jurisdictional boundaries of federal or state land (including the identity of the agency with jurisdiction over that land), tribal land, cities, counties, agencies with water management responsibilities, and areas covered by relevant general plans. (4) Existing land use designations and the identification of water use sector and water source type. (5) The density of wells per square mile, by dasymetric or similar mapping techniques, showing the general distribution of agricultural, industrial, and domestic water supply wells in the basin, including de minimis extractors, and the location and extent of communities dependent upon groundwater, utilizing data provided by the Department, as specified in Section 353.2, or the best available information.	Figures 1-1, 2-1, 3-1, 4-8, 4-10	The Submitted Alternative does not provide maps depicting all of the details required by 23 CCR 354.8(a), including (1) existing land use designations and (2) the identification of water use sector and water source type and the density of wells per square mile.
§ 354.8(b)	(b) A written description of the Plan area, including a summary of the jurisdictional areas and other features depicted on the map.	§§ 1.2, 2.1, 3.1	Although the Submitted Alternative includes a written description of the covered area, it does not include a description of all of the features required to be depicted on the maps pursuant to 23 CCR 354.8(a).
§ 354.8(c)	(c) Identification of existing water resource monitoring and management programs, and description of any such programs	Chapters 6, 7	

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	the Agency plans to incorporate in its monitoring network or in development of its Plan.		
§ 354.8(d)	(d) A description of how existing water resource monitoring or management programs may limit operational flexibility in the basin, and how the Plan has been developed to adapt to those limits.	Chapter 6	
§ 354.8(e)	(e) A description of conjunctive use programs in the basin.	§§ 4.3, 6.1	
§ 354.8(f)	(f) A plain language description of the land use elements or topic categories of applicable general plans that includes the following: (1) A summary of general plans and other land use plans governing the basin. (2) A general description of how implementation of existing land use plans may change water demands within the basin or affect the ability of the Agency to achieve sustainable groundwater management over the planning and implementation horizon, and how the Plan addresses those potential effects. (3) A general description of how implementation of the Plan may affect the water supply assumptions of relevant land use plans over the planning and implementation horizon. (4) A summary of the process for permitting new or replacement wells in the basin, including adopted standards in local well ordinances, zoning codes, and policies contained in adopted land use plans. (5) To the extent known, the Agency may include information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management.	§§ 1.4, 5.3, 6.1, 6.2	The Submitted Alternative does not provide a description of all of the items required by 23 CCR354.8(f), including a summary of general plans and other land use plans overlying the Basin, how implementation of existing land use plans may change water demands within the Basin or affect the District's ability to achieve sustainable groundwater management over the planning and implementation horizon, and a general description of how its implementation may affect water supply assumptions of relevant land use plans over the planning and implementation horizon.
§ 354.8(g)	(g) A description of any of the additional Plan elements included in Water Code Section 10727.4 that the Agency determines to be appropriate.	§§ 1.4, 5.3, Chapter 6	
Notice and Communication (§ 354.10)			
§ 354.10(a)	Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following: (a) A description of the beneficial uses and users of	Appendix A	

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties.		
§ 354.10(b)	(b) A list of public meetings at which the Plan was discussed or considered by the Agency.	Appendix A	
§ 354.10(c)	(c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency.	Appendix A	
§ 354.10(d)	(d) A communication section of the Plan that includes the following: (1) An explanation of the Agency's decision-making process. (2) Identification of opportunities for public engagement and a discussion of how public input and response will be used. (3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin. (4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.	§§ 1.4, 1.5, Appendix A	Although the Submitted Alternative includes a section titled "Groundwater Management Partners and Stakeholders," this section does satisfy the requirement to provide an explanation of how the District will make decisions pertaining to groundwater management that affect Water Retailers, especially the largest water-producing retailers.
Article 5. Subarticle 2: Basin Setting			
Introduction to Basin Setting (§ 354.12)			
§ 354.12	This Subarticle describes the information about the physical setting and characteristics of the basin and current conditions of the basin that shall be part of each Plan, including the identification of data gaps and levels of uncertainty, which comprise the basin setting that serves as the basis for defining and assessing reasonable sustainable management criteria and projects and management actions. Information provided pursuant to this Subarticle shall be prepared by or under the direction of a professional geologist or professional engineer.	Chapters 2, 3	
Hydrogeologic Conceptual Model (§ 354.14)			
§ 354.14(a)	(a) Each Plan shall include a descriptive hydrogeologic conceptual model of the basin based on technical studies and qualified maps that characterizes the physical components and interaction of the surface water and groundwater systems in the basin.	Chapters 2, 3	
§ 354.14(b)	(b) The hydrogeologic conceptual model shall be summarized	Chapters 2, 3	Although the Submitted Alternative provides a general

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	in a written description that includes the following: (1) The regional geologic and structural setting of the basin including the immediate surrounding area, as necessary for geologic consistency. (2) Lateral basin boundaries, including major geologic features that significantly affect groundwater flow. (3) The definable bottom of the basin. (4) Principal aquifers and aquitards, including the following information: (A) Formation names, if defined. (B) Physical properties of aquifers and aquitards, including the vertical and lateral extent, hydraulic conductivity, and storativity, which may be based on existing technical studies or other best available information. (C) Structural properties of the basin that restrict groundwater flow within the principal aquifers, including information regarding stratigraphic changes, truncation of units, or other features. (D) General water quality of the principal aquifers, which may be based on information derived from existing technical studies or regulatory programs. (E) Identification of the primary use or uses of each aquifer, such as domestic, irrigation, or municipal water supply. (5) Identification of data gaps and uncertainty within the hydrogeologic conceptual Model.		description of the physical properties of the aquifer and aquitards found in the Basin, it does not include all of the required details, including a description of the aquifer's , hydraulic conductivity, and storativity. The Submitted Alternative also fails to identify the primary use or uses of each aquifer, such as domestic, irrigation, or municipal water supply or any potential data gaps and uncertainty within the hydrogeologic conceptual model.
§ 354.14(c)	(c) The hydrogeologic conceptual model shall be represented graphically by at least two scaled cross-sections that display the information required by this section and are sufficient to depict major stratigraphic and structural features in the basin.	Figures 2-4, 2-5, 3-4, 3-5, 3-6	
§ 354.14(d)	(d) Physical characteristics of the basin shall be represented on one or more maps that depict the following: (1) Topographic information derived from the U.S. Geological Survey or another reliable source. (2) Surficial geology derived from a qualified map including the locations of cross sections required by this Section. (3) Soil characteristics as described by the appropriate Natural Resources Conservation Service soil survey or other applicable studies.	Figures 1-3, 2-1, 2-2, 2-4, 2-5, 2-6, 2-14, 3-1, 3-2, 3-4, 3-5, 3-6	Although the Submitted Alternative includes various maps, it does not include a map depicting the Basin's topography, the Basin's soil characteristics, or the source and point of delivery for imported water supplies.

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	(4) Delineation of existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas, including significant active springs, seeps, and wetlands within or adjacent to the basin. (5) Surface water bodies that are significant to the management of the basin. (6) The source and point of delivery for imported water supplies.		
Groundwater Conditions (§ 354.16)			
§ 354.16(a)	Each Plan shall provide a description of current and historical groundwater conditions in the basin, including data from January 1, 2015, to current conditions, based on the best available information that includes the following: (a) Groundwater elevation data demonstrating flow directions, lateral and vertical gradients, and regional pumping patterns, including: (1) Groundwater elevation contour maps depicting the groundwater table or potentiometric surface associated with the current seasonal high and seasonal low for each principal aquifer within the basin. (2) Hydrographs depicting long-term groundwater elevations, historical highs and lows, and hydraulic gradients between principal aquifers.	§§ 2.2, 3.2, Appendix C Figures 2-8, 2-9, 2-10, 2-11, 3-8, 3-9, 3-10	
§ 354.16(b)	(b) A graph depicting estimates of the change in groundwater in storage, based on data, demonstrating the annual and cumulative change in the volume of groundwater in storage between seasonal high groundwater conditions, including the annual groundwater use and water year type.	§§ 4.4 Figures 4-9, 4-10, 4-13	
§ 354.16(c)	(c) Seawater intrusion conditions in the basin, including maps and cross- sections of the seawater intrusion front for each principal aquifer.	§ 2.2 Figure 2-21	Although the Submitted Alternative provides a map depicting the extent of sea water intrusion in the principal aquifer, it does not include a cross section, as is also required.
§ 354.16(d)	(d) Groundwater quality issues that may affect the supply and beneficial uses of groundwater, including a description and map of the location of known groundwater contamination sites and plumes.	§§ 2.2, 3.2, 6.2 Figures 6-1, 6-2	
§ 354.16(e)	(e) The extent, cumulative total, and annual rate of land subsidence, including maps depicting total subsidence,	§ 2.2	

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	utilizing data available from the Department, as specified in Section 353.2, or the best available information.	Figure 2-13	
§ 354.16(f)	(f) Identification of interconnected surface water systems within the basin and an estimate of the quantity and timing of depletions of those systems, utilizing data available from the Department, as specified in Section 353.2, or the best available information.	§§ 2.2, 3.2	Although the Submitted Alternative identifies interconnected surface water systems within the Basin, it does not provide an estimate of the quantity and timing of those systems as required.
§ 354.16(g)	(g) Identification of groundwater dependent ecosystems within the basin, utilizing data available from the Department as specified in Section 353.2, or the best available information.	§§ 2.2, 3.2	
Water Budget (§ 354.18)			
§ 354.18(a)	(a) Each Plan shall include a water budget for the basin that provides an accounting and assessment of the total annual volume of groundwater and surface water entering and leaving the basin, including historical, current and projected water budget conditions, and the change in the volume of water stored. Water budget information shall be reported in tabular and graphical form.	§§ 4.4, 4.5	
§ 354.18(b)	(b) The water budget shall quantify the following, either through direct measurements or estimates based on data: (1) Total surface water entering and leaving a basin by water source type. (2) Inflow to the groundwater system by water source type, including subsurface groundwater inflow and infiltration of precipitation, applied water, and surface water systems, such as lakes, streams, rivers, canals, springs and conveyance systems. (3) Outflows from the groundwater system by water use sector, including evapotranspiration, groundwater extraction, groundwater discharge to surface water sources, and subsurface groundwater outflow. (4) The change in the annual volume of groundwater in storage between seasonal high conditions. (5) If overdraft conditions occur, as defined in Bulletin 118, the water budget shall include a quantification of overdraft over a period of years during which water year and water supply conditions approximate average conditions. (6) The water year type associated with the annual supply,	§ 4.4	The Submitted Alternative does not identify the water year type associated with the annual supply, demand, and change in groundwater stored.

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	demand, and change in groundwater stored. (7) An estimate of sustainable yield for the basin.		
§ 354.18(c) (1) and (2)	(c) Each Plan shall quantify the current, historical, and projected water budget for the basin as follows: (1) Current water budget information shall quantify current inflows and outflows for the basin using the most recent hydrology, water supply, water demand, and land use information. (2) Historical water budget information shall be used to evaluate availability or reliability of past surface water supply deliveries and aquifer response to water supply and demand trends relative to water year type. The historical water budget shall include the following: (A) A quantitative evaluation of the availability or reliability of historical surface water supply deliveries as a function of the historical planned versus actual annual surface water deliveries, by surface water source and water year type, and based on the most recent ten years of surface water supply information. (B) A quantitative assessment of the historical water budget, starting with the most recently available information and extending back a minimum of 10 years, or as is sufficient to calibrate and reduce the uncertainty of the tools and methods used to estimate and project future water budget information and future aquifer response to proposed sustainable groundwater management practices over the planning and implementation horizon. (C) A description of how historical conditions concerning hydrology, water demand, and surface water supply availability or reliability have impacted the ability of the Agency to operate the basin within sustainable yield. Basin hydrology may be characterized and evaluated using water year type.	§§ 4.4, 4.5	Although the Submitted Alternative includes a historical groundwater budget identifying quantifies the average inflows and outflows from 2003 through 2012, it does not quantify this information for current inflows and outflows. The Submitted Alternative's historical water budget also does not include an evaluation of the availability or reliability of historical surface water supply deliveries as a function of the historical versus actual annual surface water deliveries.
§ 354.18(c) (3)	(3) Projected water budgets shall be used to estimate future baseline conditions of supply, demand, and aquifer response to Plan implementation, and to identify the uncertainties of these projected water budget components. The projected water budget shall utilize the following methodologies and assumptions to estimate future baseline conditions concerning	§ 4.5	The Submitted Alternative does not include a projected water budget.

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	hydrology, water demand and surface water supply availability or reliability over the planning and implementation horizon: (A) Projected hydrology shall utilize 50 years of historical precipitation, evapotranspiration, and streamflow information as the baseline condition for estimating future hydrology. The projected hydrology information shall also be applied as the baseline condition used to evaluate future scenarios of hydrologic uncertainty associated with projections of climate change and sea level rise. (B) Projected water demand shall utilize the most recent land use, evapotranspiration, and crop coefficient information as the baseline condition for estimating future water demand. The projected water demand information shall also be applied as the baseline condition used to evaluate future scenarios of water demand uncertainty associated with projected changes in local land use planning, population growth, and climate. (C) Projected surface water supply shall utilize the most recent water supply information as the baseline condition for estimating future surface water supply. The projected surface water supply shall also be applied as the baseline condition used to evaluate future scenarios of surface water supply availability and reliability as a function of the historical surface water supply identified in Section 354.18(c)(2)(A), and the projected changes in local land use planning, population growth, and climate.		
§ 354.18(d)	(d) The Agency shall utilize the following information provided, as available, by the Department pursuant to Section 353.2, or other data of comparable quality, to develop the water budget: (1) Historical water budget information for mean annual temperature, mean annual precipitation, water year type, and land use. (2) Current water budget information for temperature, water year type, evapotranspiration, and land use. (3) Projected water budget information for population, population growth, climate change, and sea level rise.	§§ 4.4, 4.5, 6.1	The Submitted Alternative does not identify what information it relies on to develop the water budget.
§ 354.18(e)	(e) Each Plan shall rely on the best available information and best available science to quantify the water budget for the basin	§§ 4.4, 4.5, 7.6	Although the Submitted Alternative provides a historical water budget, the Submitted Alternative does not identify what

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	in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow. If a numerical groundwater and surface water model is not used to quantify and evaluate the projected water budget conditions and the potential impacts to beneficial uses and users of groundwater, the Plan shall identify and describe an equally effective method, tool, or analytical model to evaluate projected water budget conditions.		information it relies on to develop the water budget. The water budget included in the Submitted Alternative also does not provide any insight into—or mention—the Basin's historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, groundwater and surface water interaction, and subsurface groundwater flow.
§ 354.18(f)	(f) The Department shall provide the California Central Valley Groundwater- Surface Water Simulation Model (C2VSIM) and the Integrated Water Flow Model (IWFM) for use by Agencies in developing the water budget. Each Agency may choose to use a different groundwater and surface water model, pursuant to Section 352.4.	§7.6	
Management Areas (§ 354.20)			
§ 354.20(a)	(a) Each Agency may define one or more management areas within a basin if the Agency has determined that creation of management areas will facilitate implementation of the Plan. Management areas may define different minimum thresholds and be operated to different measurable objectives than the basin at large, provided that undesirable results are defined consistently throughout the basin.	Executive Summary, § 2.1	
§ 354.20(b)	(b) A basin that includes one or more management areas shall describe the following in the Plan: (1) The reason for the creation of each management area. (2) The minimum thresholds and measurable objectives established for each management area, and an explanation of the rationale for selecting those values, if different from the basin at large. (3) The level of monitoring and analysis appropriate for each management area. (4) An explanation of how the management area can operate under different minimum thresholds and measurable objectives without causing undesirable results outside the management area, if applicable.	Executive Summary, § 5.4	

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§ 354.20(c)	(c) If a Plan includes one or more management areas, the Plan shall include descriptions, maps, and other information required by this Subarticle sufficient to describe conditions in those areas.	Chapter 2	
Article 5. Subarticle 3: Sustainable Management Criteria			
Introduction to Sustainable Management Criteria (§ 354.22)			
§ 354.22	This Subarticle describes criteria by which an Agency defines conditions in its Plan that constitute sustainable groundwater management for the basin, including the process by which the Agency shall characterize undesirable results, and establish minimum thresholds and measurable objectives for each applicable sustainability indicator.	Chapter 5	
Sustainability Goal (§ 354.24)			
§ 354.24	Each Agency shall establish in its Plan a sustainability goal for the basin that culminates in the absence of undesirable results within 20 years of the applicable statutory deadline. The Plan shall include a description of the sustainability goal, including information from the basin setting used to establish the sustainability goal, a discussion of the measures that will be implemented to ensure that the basin will be operated within its sustainable yield, and an explanation of how the sustainability goal is likely to be achieved within 20 years of Plan implementation and is likely to be maintained through the planning and implementation horizon.	Chapters 5, 6, 8	Although the Submitted Alternative establishes two sustainability goals for the basin and discusses the measures that will be implemented to meet to ensure that the Basin will be operated within its sustainable yield, it does not provide a timeline for meeting the sustainability goals or explain how the sustainability goals are likely to be achieved within 20 years and maintained through the planning and implementation horizon.
Undesirable Results (§ 354.26)			
§ 354.26(a)	(a) Each Agency shall describe in its Plan the processes and criteria relied upon to define undesirable results applicable to the basin. Undesirable results occur when significant and unreasonable effects for any of the sustainability indicators are caused by groundwater conditions occurring throughout the basin.	Chapters 2, 3, 5	Although the Submitted Alternative contains—and discusses—outcome measures (e.g., performance measures), ***it does not define undesirable results or the process and/or criteria relied upon to define them***.
§ 354.26(b)	(b) The description of undesirable results shall include the following: (1) The cause of groundwater conditions occurring throughout the basin that would lead to or has led to undesirable results based on information described in the basin setting, and other data or models as appropriate.	Chapters 2, 3, 5	***The Submitted Alternative does not define undesirable results***, discuss groundwater conditions from which they would occur, or discuss the potential effects of undesirable results on the Basin's beneficial users and uses.

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	(2) The criteria used to define when and where the effects of the groundwater conditions cause undesirable results for each applicable sustainability indicator. The criteria shall be based on a quantitative description of the combination of minimum threshold exceedances that cause significant and unreasonable effects in the basin. (3) Potential effects on the beneficial uses and users of groundwater, on land uses and property interests, and other potential effects that may occur or are occurring from undesirable results.		
§ 354.26(c)	(c) The Agency may need to evaluate multiple minimum thresholds to determine whether an undesirable result is occurring in the basin. The determination that undesirable results are occurring may depend upon measurements from multiple monitoring sites, rather than a single monitoring site.	§ 5.4	The Submitted Alternative does not define undesirable results.
§ 354.26(d)	(d) An Agency that is able to demonstrate that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin shall not be required to establish criteria for undesirable results related to those sustainability indicators.	Chapters 2, 3 § 5.4	The Submitted Alternative fails to demonstrate that one or more sustainability indicators are not present and are not likely to occur in a basin and therefore is required to establish criteria for undesirable results.
Minimum Thresholds (§ 354.28)			
§ 354.28(a)	(a) Each Agency in its Plan shall establish minimum thresholds that quantify groundwater conditions for each applicable sustainability indicator at each monitoring site or representative monitoring site established pursuant to Section 354.36. The numeric value used to define minimum thresholds shall represent a point in the basin that, if exceeded, may cause undesirable results as described in Section 354.26.	§§ 2.2, 3.2, 5.4	The Submitted Alternative establishes Basin-wide quantitative thresholds (which it refers to as outcome measures) for 4 of the 6 SGMA-defined undesirable results and does not demonstrate why the other two undesirables results are not present in the Basin and thus do not need to be addressed.
§ 354.28(b)	(b) The description of minimum thresholds shall include the following: (1) The information and criteria relied upon to establish and justify the minimum thresholds for each sustainability indicator. The justification for the minimum threshold shall be supported by information provided in the basin setting, and other data or models as appropriate, and qualified by uncertainty in the understanding of the basin setting. (2) The relationship between the minimum thresholds for each	§§ 2.2, 3.2, 5.4, 7.2	The Submitted Alternative does not describe how the minimum thresholds in each sub-basin have been selected to avoid causing undesirable results in the adjacent sub-basin. The Submitted Alternative also only describes how the minimum thresholds may affect the District, not how they may affect the interests of beneficial uses and users of groundwater or land uses and property interests.

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	sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators. (3) How minimum thresholds have been selected to avoid causing undesirable results in adjacent basins or affecting the ability of adjacent basins to achieve sustainability goals. (4) How minimum thresholds may affect the interests of beneficial uses and users of groundwater or land uses and property interests. (5) How state, federal, or local standards relate to the relevant sustainability indicator. If the minimum threshold differs from other regulatory standards, the Agency shall explain the nature of and basis for the difference. (6) How each minimum threshold will be quantitatively measured, consistent with the monitoring network requirements described in Subarticle 4.		
§ 354.28(c)(1)	(c) Minimum thresholds for each sustainability indicator shall be defined as follows: (1) Chronic Lowering of Groundwater Levels. The minimum threshold for chronic lowering of groundwater levels shall be the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results. Minimum thresholds for chronic lowering of groundwater levels shall be supported by the following: (A) The rate of groundwater elevation decline based on historical trends, water year type, and projected water use in the basin. (B) Potential effects on other sustainability indicators.	§§ 2.2, 3.2, 5.4	The Submitted Alternative does not define a minimum threshold for the chronic lowering of groundwater levels, nor demonstrate why a minimum threshold is unnecessary or inapplicable for this sustainability indicator.
§ 354.28(c)(2)	(2) Reduction of Groundwater Storage. The minimum threshold for reduction of groundwater storage shall be a total volume of groundwater that can be withdrawn from the basin without causing conditions that may lead to undesirable results. Minimum thresholds for reduction of groundwater storage shall be supported by the sustainable yield of the basin, calculated based on historical trends, water year type, and projected water use in the basin.	§§ 2.2, 3.2, 5.4	Although the Submitted Alternative defines a minimum threshold for the reduction in groundwater storage, it is unclear on what information this threshold is based. Specifically, the Submitted Alternative does not explain the relationship between the minimum threshold for the reduction in groundwater storage and the Basin's sustainable yield, calculated based on historical trends, water year type, and projected water use.
§ 354.28(c)(3)	(3) Seawater Intrusion. The minimum threshold for seawater	§ 2.2, 5.4	The minimum threshold for seawater intrusion set forth in the

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	intrusion shall be defined by a chloride concentration isocontour for each principal aquifer where seawater intrusion may lead to undesirable results. Minimum thresholds for seawater intrusion shall be supported by the following: (A) Maps and cross-sections of the chloride concentration isocontour that defines the minimum threshold and measurable objective for each principal aquifer. (B) A description of how the seawater intrusion minimum threshold considers the effects of current and projected sea levels.		Submitted Alternative (1) is not defined by a chloride concentration isocontour, (2) does not include maps and cross-sections of the chloride concentration isocontour to support the minimum threshold for seawater intrusion, and (3) does not consider the effects of current and projected sea levels.
§ 354.28(c)(4)	(4) Degraded Water Quality. The minimum threshold for degraded water quality shall be the degradation of water quality, including the migration of contaminant plumes that impair water supplies or other indicator of water quality as determined by the Agency that may lead to undesirable results. The minimum threshold shall be based on the number of supply wells, a volume of water, or a location of an isocontour that exceeds concentrations of constituents determined by the Agency to be of concern for the basin. In setting minimum thresholds for degraded water quality, the Agency shall consider local, state, and federal water quality standards applicable to the basin.	§§ 2.2, 3.2, 5.4	
§ 354.28(c)(5)	(5) Land Subsidence. The minimum threshold for land subsidence shall be the rate and extent of subsidence that substantially interferes with surface land uses and may lead to undesirable results. Minimum thresholds for land subsidence shall be supported by the following: (A) Identification of land uses and property interests that have been affected or are likely to be affected by land subsidence in the basin, including an explanation of how the Agency has determined and considered those uses and interests, and the Agency's rationale for establishing minimum thresholds in light of those effects. (B) Maps and graphs showing the extent and rate of land subsidence in the basin that defines the minimum threshold and measurable objectives.	§ 2.2, 5.4	Although the Submitted Alternative contains maps and graphs depicting the historical extent and rate of land subsidence in the Basin, it does not include a visual depiction of the minimum threshold for land subsidence, as required.
§ 354.28(c)(6)	(6) Depletions of Interconnected Surface Water. The minimum threshold for depletions of interconnected surface water shall	§§ 2.2, 2.3	The Submitted Alternative does define a minimum threshold for depletions of interconnected surface water, nor demonstrate

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	be the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results. The minimum threshold established for depletions of interconnected surface water shall be supported by the following: (A) The location, quantity, and timing of depletions of interconnected surface water. (B) A description of the groundwater and surface water model used to quantify surface water depletion. If a numerical groundwater and surface water model is not used to quantify surface water depletion, the Plan shall identify and describe an equally effective method, tool, or analytical model to accomplish the requirements of this Paragraph.		why a minimum threshold is unnecessary or inapplicable for this sustainability indicator.
§ 354.28(d)	(d) An Agency may establish a representative minimum threshold for groundwater elevation to serve as the value for multiple sustainability indicators, where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.	N/A	
§ 354.28(e)	(e) An Agency that has demonstrated that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin, as described in Section 354.26, shall not be required to establish minimum thresholds related to those sustainability indicators.	Chapters 2, 3, 5	The Submitted Alternative fails to demonstrate that one or more sustainability indicators are not present and/or are not likely to occur in the Basin and therefore is required to establish minimum thresholds for each of the 6 SGMA-identified sustainability indicators.
Measurable Objectives (§ 354.30)			
§ 354.30(a)	(a) Each Agency shall establish measurable objectives, including interim milestones in increments of five years, to achieve the sustainability goal for the basin within 20 years of Plan implementation and to continue to sustainably manage the groundwater basin over the planning and implementation horizon.	Executive Summary, Chapter 8	Although the Submitted Alternative contains "Groundwater Management Plan Recommendations," which will be evaluated during pursuant to the evaluation schedule set forth in SGMA, the Submitted Alternative does not discuss "measurable objectives" or describe how the basin's sustainability goal will be met within 20 years.
§ 354.30(b)	(b) Measurable objectives shall be established for each sustainability indicator, based on quantitative values using the same metrics and monitoring sites as are used to define the minimum thresholds.	N/A	The Submitted Alternative does not establish quantitative measurable objectives for each sustainability indicator.
§ 354.30(c)	(c) Measurable objectives shall provide a reasonable margin of	N/A	The Submitted Alternative does not establish quantitative

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	operational flexibility under adverse conditions which shall take into consideration components such as historical water budgets, seasonal and long-term trends, and periods of drought, and be commensurate with levels of uncertainty.		measurable objectives.
§ 354.30(d)	(d) An Agency may establish a representative measurable objective for groundwater elevation to serve as the value for multiple sustainability indicators where the Agency can demonstrate that the representative value is a reasonable proxy for multiple individual measurable objectives as supported by adequate evidence.	N/A	
§ 354.30(e)	(e) Each Plan shall describe a reasonable path to achieve the sustainability goal for the basin within 20 years of Plan implementation, including a description of interim milestones for each relevant sustainability indicator, using the same metric as the measurable objective, in increments of five years. The description shall explain how the Plan is likely to maintain sustainable groundwater management over the planning and implementation horizon.	Executive Summary, Chapter 8	Although the Submitted Alternative contains "Groundwater Management Plan Recommendations," to maintain the basin's groundwater resources, there is no description of interim milestones or explanation of how the Submitted Alternative is likely to maintain sustainable groundwater management over the planning and implementation horizon.
§ 354.30(f)	(f) Each Plan may include measurable objectives and interim milestones for additional Plan elements described in Water Code Section 10727.4 where the Agency determines such measures are appropriate for sustainable groundwater management in the basin.	N/A	
§ 354.30(g)	(g) An Agency may establish measurable objectives that exceed the reasonable margin of operational flexibility for the purpose of improving overall conditions in the basin, but failure to achieve those objectives shall not be grounds for a finding of inadequacy of the Plan.	N/A	
Article 5. Subarticle 4: Monitoring Networks			
Introduction to Monitoring Networks (§ 354.32)			
§ 354.32	This Subarticle describes the monitoring network that shall be developed for each basin, including monitoring objectives, monitoring protocols, and data reporting requirements. The monitoring network shall promote the collection of data of sufficient quality, frequency, and distribution to characterize groundwater and related surface water conditions in the basin and evaluate changing conditions that occur through	Chapter 7	

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	implementation of the Plan.		
Monitoring Network (§ 354.34)			
§ 354.34(a)	(a) Each Agency shall develop a monitoring network capable of collecting sufficient data to demonstrate short-term, seasonal, and long-term trends in groundwater and related surface conditions, and yield representative information about groundwater conditions as necessary to evaluate Plan implementation.	§§ 7.1, 7.2, 7.3, 7.4	
§ 354.34(b)	(b) Each Plan shall include a description of the monitoring network objectives for the basin, including an explanation of how the network will be developed and implemented to monitor groundwater and related surface conditions, and the interconnection of surface water and groundwater, with sufficient temporal frequency and spatial density to evaluate the affects and effectiveness of Plan implementation. The monitoring network objectives shall be implemented to accomplish the following: (1) Demonstrate progress toward achieving measurable objectives described in the Plan. (2) Monitor impacts to the beneficial uses or users of groundwater. (3) Monitor changes in groundwater conditions relative to measurable objectives and minimum thresholds. (4) Quantify annual changes in water budget components.	§§ 7.1, 7.2, 7.3, 7.4	
§ 354.34(c)(1)	(c) Each monitoring network shall be designed to accomplish the following for each sustainability indicator: (1) Chronic Lowering of Groundwater Levels. Demonstrate groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features by the following methods: (A) A sufficient density of monitoring wells to collect representative measurements through depth-discrete perforated intervals to characterize the groundwater table or potentiometric surface for each principal aquifer. (B) Static groundwater elevation measurements shall be collected at least two times per year, to represent seasonal low and seasonal high groundwater conditions.	§ 7.1	Although the monitoring network described in the Submitted Alternative monitors groundwater levels throughout the Basin, it does not appear to be designed to monitor all of the required elements, including groundwater flow directions and the hydraulic gradients and depletions of interconnected surface waters.

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§ 354.34(c)(2)	(2) Reduction of Groundwater Storage. Provide an estimate of the change in annual groundwater in storage.	§ 7.1	The Submitted Alternative provides an estimate of the change in annual groundwater storage through modeling, not through information gained from the monitoring network.
§ 354.34(c)(3)	(3) Seawater Intrusion. Monitor seawater intrusion using chloride concentrations, or other measurements convertible to chloride concentrations, so that the current and projected rate and extent of seawater intrusion for each applicable principal aquifer may be calculated.	§ 7.3	
§ 354.34(c)(4)	(4) Degraded Water Quality. Collect sufficient spatial and temporal data from each applicable principal aquifer to determine groundwater quality trends for water quality indicators, as determined by the Agency, to address known water quality issues.	§ 7.3	
§ 354.34(c)(5)	(5) Land Subsidence. Identify the rate and extent of land subsidence, which may be measured by extensometers, surveying, remote sensing technology, or other appropriate method.	§ 7.2	
§ 354.34(c)(6)	(6) Depletions of Interconnected Surface Water. Monitor surface water and groundwater, where interconnected surface water conditions exist, to characterize the spatial and temporal exchanges between surface water and groundwater, and to calibrate and apply the tools and methods necessary to calculate depletions of surface water caused by groundwater extractions. The monitoring network shall be able to characterize the following: (A) Flow conditions including surface water discharge, surface water head, and baseflow contribution. (B) Identifying the approximate date and location where ephemeral or intermittent flowing streams and rivers cease to flow, if applicable. (C) Temporal change in conditions due to variations in stream discharge and regional groundwater extraction. (D) Other factors that may be necessary to identify adverse impacts on beneficial uses of the surface water.	§ 7.4	Although the monitoring network described in the Submitted Alternative includes monitoring protocols for surface water generally, there is not discussion regarding its ability to monitor for potential depletions of interconnected surface water as required.
§ 354.34(d)	(d) The monitoring network shall be designed to ensure adequate coverage of sustainability indicators. If management areas are established, the quantity and density of monitoring	Chapter 7	The monitoring network described in the Submitted Alternative covers 5 of the 6 SGMA-defined sustainability indicators; it does not provide data on changes to groundwater storage within

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	sites in those areas shall be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area.		the Basin.
§ 354.34(f)	(f) The Agency shall determine the density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends based upon the following factors: (1) Amount of current and projected groundwater use. (2) Aquifer characteristics, including confined or unconfined aquifer conditions, or other physical characteristics that affect groundwater flow. (3) Impacts to beneficial uses and users of groundwater and land uses and property interests affected by groundwater production, and adjacent basins that could affect the ability of that basin to meet the sustainability goal. (4) Whether the Agency has adequate long-term existing monitoring results or other technical information to demonstrate an understanding of aquifer response.	Chapter 7	
§ 354.34(g)	(g) Each Plan shall describe the following information about the monitoring network: (1) Scientific rationale for the monitoring site selection process. (2) Consistency with data and reporting standards described in Section 352.4. If a site is not consistent with those standards, the Plan shall explain the necessity of the site to the monitoring network, and how any variation from the standards will not affect the usefulness of the results obtained. (3) For each sustainability indicator, the quantitative values for the minimum threshold, measurable objective, and interim milestones that will be measured at each monitoring site or representative monitoring sites established pursuant to Section 354.36.	Chapter 7	Although the Submitted Alternative provides a general description of the District's monitoring network, the description is silent as to numerous required details, including the scientific rationale for the monitoring site selection, consistency with data and reporting standards, the quantitative values to be measured at each monitoring site, and the District's monitoring protocols, technical standards, and data collection methods.
§ 354.34(h)	(h) The location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used.	Chapter 7, Appendix E	The Submitted Alternative does not identify the location and type of monitoring site in tabular format, as required.
§ 354.34(i)	(i) The monitoring protocols developed by each Agency shall	Chapter 7	The Submitted Alternative does not include a description of the

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	include a description of technical standards, data collection methods, and other procedures or protocols pursuant to Water Code Section 10727.2(f) for monitoring sites or other data collection facilities to ensure that the monitoring network utilizes comparable data and methodologies.		District's monitoring protocols, technical standards, and data collection methods.
§ 354.34(j)	(j) An Agency that has demonstrated that undesirable results related to one or more sustainability indicators are not present and are not likely to occur in a basin, as described in Section 354.26, shall not be required to establish a monitoring network related to those sustainability indicators.	Chapters 2, 3, 5	The Submitted Alternative fails to demonstrate that one or more undesirable results are not present and/or are not likely to occur in the Basin and therefore is required to establish a monitoring network related to each of the 6 sustainability indicators.
Representative Monitoring (§ 354.36)			
§ 354.36(a)	Each Agency may designate a subset of monitoring sites as representative of conditions in the basin or an area of the basin, as follows: (a) Representative monitoring sites may be designated by the Agency as the point at which sustainability indicators are monitored, and for which quantitative values for minimum thresholds, measurable objectives, and interim milestones are defined.	Chapters 5, 7	The Submitted Alternative does not describe or designate representative monitoring sites.
§ 354.36(b)	(b) Groundwater elevations may be used as a proxy for monitoring other sustainability indicators if the Agency demonstrates the following: (1) Significant correlation exists between groundwater elevations and the sustainability indicators for which groundwater elevation measurements serve as a proxy. (2) Measurable objectives established for groundwater elevation shall include a reasonable margin of operational flexibility taking into consideration the basin setting to avoid undesirable results for the sustainability indicators for which groundwater elevation measurements serve as a proxy.	Chapters 5, 7	The Submitted Alternative does not address using groundwater elevations as a proxy for monitoring other sustainability indicators.
§ 354.36(c)	(c) The designation of a representative monitoring site shall be supported by adequate evidence demonstrating that the site reflects general conditions in the area.	Chapters 5, 7	The Submitted Alternative does not describe or designate representative monitoring sites.
Assessment and Improvement of Monitoring Network (§ 354.38)			
§ 354.38(a)	(a) Each Agency shall review the monitoring network and include an evaluation in the Plan and each five-year assessment, including a determination of uncertainty and	Chapter 7	

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	whether there are data gaps that could affect the ability of the Plan to achieve the sustainability goal for the basin.		
§ 354.38(b)	(b) Each Agency shall identify data gaps wherever the basin does not contain a sufficient number of monitoring sites, does not monitor sites at a sufficient frequency, or utilizes monitoring sites that are unreliable, including those that do not satisfy minimum standards of the monitoring network adopted by the Agency.	N/A	The Submitted Alternative fails to identify data gaps in the District's monitoring program. As noted in our comments above, however, there are many deficiencies in the District's current monitoring program, not the least of which are its current inability to monitor for required groundwater level elements, changes in groundwater storage and depletions of interconnected surface water.
§ 354.38(c)	(c) If the monitoring network contains data gaps, the Plan shall include a description of the following: (1) The location and reason for data gaps in the monitoring network. (2) Local issues and circumstances that limit or prevent monitoring.	N/A	The Submitted Alternative fails to identify obvious data gaps in the District's monitoring network.
§ 354.38(d)	(d) Each Agency shall describe steps that will be taken to fill data gaps before the next five-year assessment, including the location and purpose of newly added or installed monitoring sites.	N/A	The Submitted Alternative fails to identify obvious data gaps in the District's monitoring network.
Introduction to Projects and Management Actions (§ 354.42)			
§ 354.42	This Subarticle describes the criteria for projects and management actions to be included in a Plan to meet the sustainability goal for the basin in a manner that can be maintained over the planning and implementation horizon.	Chapter 6	
Projects and Management Actions (§ 354.44)			
§ 354.44(a)	(a) Each Plan shall include a description of the projects and management actions the Agency has determined will achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.	Chapters 6, 8	
§ 354.44(b) (1) and (2)	(b) Each Plan shall include a description of the projects and management actions that include the following: (1) A list of projects and management actions proposed in the Plan with a description of the measurable objective that is expected to benefit from the project or management action. The list shall include projects and management actions that may be utilized to meet interim milestones, the exceedance of	Chapters 6, 8	Although the Submitted Alternative identifies programs and/or management actions to maintain a reliable water supply in the Basin, the programs and/or management actions are described very generally. The Submitted Alternative does not include the following required descriptions: the circumstances under which projects or management actions shall be implemented, the criteria that would trigger implementation and termination of

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	minimum thresholds, or where undesirable results have occurred or are imminent. The Plan shall include the following: (A) A description of the circumstances under which projects or management actions shall be implemented, the criteria that would trigger implementation and termination of projects or management actions, and the process by which the Agency shall determine that conditions requiring the implementation of particular projects or management actions have occurred. (B) The process by which the Agency shall provide notice to the public and other agencies that the implementation of projects or management actions is being considered or has been implemented, including a description of the actions to be taken. (2) If overdraft conditions are identified through the analysis required by Section 354.18, the Plan shall describe projects or management actions, including a quantification of demand reduction or other methods, for the mitigation of overdraft.		projects or management actions, the process by which the District shall determine that conditions requiring the implementation of particular projects or management actions have occurred, and how the District will provide notice to the public and other agencies and stakeholders that such programs and/or management actions will be taken.
§ 354.44(b) (3) to (8)	(3) A summary of the permitting and regulatory process required for each project and management action. (4) The status of each project and management action, including a time-table for expected initiation and completion, and the accrual of expected benefits. (5) An explanation of the benefits that are expected to be realized from the project or management action, and how those benefits will be evaluated. (6) An explanation of how the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included. (7) A description of the legal authority required for each project and management action, and the basis for that authority within the Agency. (8) A description of the estimated cost for each project and management action and a description of how the Agency plans to meet those costs.	Chapter 6	The Submitted Alternative does not include the following required descriptions: the status of each program and/or management action (including a time-table for expected initiation and completion, and the accrual of expected benefits), and description of the estimated cost for each project and management action and a description of how the District plans to meet those costs.
§ 354.44(b) (9)	(9) A description of the management of groundwater extractions and recharge to ensure that chronic lowering of	Chapters 1, 4, 6	

DWR Emergency Regulations Section	Requirement	GWMP Location	SJWC Comments
	groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods.		
§ 354.44(c)	(c) Projects and management actions shall be supported by best available information and best available science.	Chapters 1, 4, 6	
Article 7 Annual Reports and Periodic Evaluations by the Agency			
§ 356.2	Each Agency shall submit an annual report to the Department by April 1 of each year following the adoption of the Plan.	Chapter 7, Appendix C	
§ 356.4	Each agency shall evaluate its Plan at least every five years and whenever the Plan is amended, and provide a written assessment to the Department. The assessment shall describe whether the Plan implementation, including implementation of projects and management actions, are meeting the sustainability goal in the basin, and shall include components (a) through (k) as documented in the Emergency GSP Regulations.	Executive Summary, Chapter 8	

Via DWR SGMA Portal and Email (Trevor.Joseph@water.ca.gov)

Trevor Joseph
SGM Section Chief
Department of Water Resources
901 P Street, Room 213
P.O. Box 942836
Sacramento, CA 94236

February 17, 2017

Re: Santa Clara Valley Water District's SGMA Alternative Submission

Dear Mr. Joseph,

Stanford University ("University"), an overlying groundwater rights holder in the Santa Clara Subbasin ("Subbasin"), appreciates the opportunity to provide comments on Santa Clara Valley Water District's ("District") alternative submission under the Sustainable Groundwater Management Act ("SGMA") for management of the Subbasin. As a stakeholder within the District's jurisdictional boundaries that has for many years been actively involved in groundwater management efforts in the Subbasin, the University has concerns with the District's alternative submission and related efforts to comply with and implement SGMA in the Subbasin. For the reasons set forth below, the University requests that the Department of Water Resources ("DWR") reject the District's alternative submission as being non-compliant with SGMA. The District must develop a groundwater sustainability plan ("GSP") with input from the numerous stakeholders in the Subbasin and ensure that the GSP includes the necessary elements and information required by SGMA.

Water Code section 10733.6 allows a local agency to submit an alternative to comply with SGMA in place of submitting a GSP. (Wat. Code § 10733.6 (a).) Alternatives may be any of the following: (1) a groundwater management plan developed under Water Code sections 10750 *et seq*. or other law authorizing groundwater management; (2) groundwater management pursuant to an adjudication action; and (3) an analysis demonstrating that the basin has been operated within its sustainable yield over a period of at least 10-years. (*Id*. at § 10733.6(b).) To be adequate under SGMA, an alternative must satisfy the objectives of SGMA and address various topics set forth in DWR's Groundwater Sustainability Plan Emergency Regulations ("Regulations," 23 Cal. Code Regs. §§ 350 *et seq*.). (See, Wat. Code § 10733.6(a), 23 Cal. Code Regs. §§ 350, 350.2, 358.2, 358.6.)

The District submitted its 2016 Groundwater Management Plan ("Plan") as an alternative under SGMA. The Plan relies on the District's existing asserted authority under the Santa Clara Valley Water District Act but fails to meet the requirements of SGMA in numerous ways. Specifically, the Plan fails to: (1) identify and recognize water right holders in the Subbasin and provide for measures to ensure sustainable groundwater management in a way that protects water right holders; and (2) address SGMA authorities and explain the process for how the District will exercise those authorities in a lawful manner to sustainably manage groundwater in the Subbasin.

WATER RESOURCES & CIVIL INFRASTRUCTURE GROUP
327 Bonair Siding, Stanford, CA 94305-7272 T 650-725-8081 F 650-723-3191

1. **The Plan fails to identify and recognize water right holders in the Subbasin and provide for measures to ensure sustainable groundwater management in a way that protects water right holders.**

A primary objective of SGMA is to sustainably manage groundwater basins *in a manner that protects water rights, including groundwater rights.* This objective is evident in the provisions of SGMA that require local agencies to identify and recognize groundwater right holders, as well as those that describe the protected nature of water rights. (See, Water Code §§ 10720.1(b) ["It is the intent of the Legislature to preserve the security of water rights in the state to the greatest extent possible consistent with the sustainable management of groundwater"], 10720.5 (a), (b) [stating that "[n]othing in [SGMA] modifies rights or priorities to use or store groundwater consistent with Section 2 of Article X of the California Constitution" and that "[n]othing in SGMA, or in any groundwater management plan adopted pursuant to [SGMA], determines or alters surface water rights or groundwater rights under common law or any provision of law that determines or grants surface water rights"], 10723.2 ["The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater . . ."], 10726.8 (b) ["Nothing in [SGMA] shall be construed as authorizing a local agency to make a binding determination of the water rights of any person or entity"].) DWR's Regulations acknowledge SGMA's requirement that local agencies must recognize existing groundwater rights holders. (See, 23 Cal. Code Regs. §§ 354.10(a) [A GSP or alternative must include "[a] description of the beneficial uses and users of groundwater in the basin"], 355.4(b)(4) [noting that DWR, in evaluating whether a GSP or alternative is likely to achieve the sustainability goal for a basin, must consider "[w]hether the interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have been considered"].) Thus, the District's Plan must identify and recognize groundwater right holders in the Subbasin and describe how groundwater management will occur in a manner that respects their rights.

Here, the Plan does not identify and recognize groundwater right holders in the Subbasin, nor does it describe how the District will implement management actions in a manner that respects water rights. The District cites generally to Appendix A of the Plan as the location that includes a description of the beneficial uses and users of groundwater in the Subbasin. (Plan, Appendix B [titled "Demonstration of Functional Equivalency"], p. B-5 [specifying the location of the Plan that includes the information required by Section 354.10 of the Regulations].) However, Appendix A does not include any identification or description of the beneficial groundwater users and right holders in the Subbasin, and no such identification and description is set forth elsewhere in the Plan. The Plan accordingly also does not include any description of how groundwater management actions will be implemented in a manner that respects water rights. Therefore, the Plan is substantially deficient and fails to satisfy the objectives of SGMA.

2. **The Plan fails to address SGMA authorities and explain how the District will exercise those authorities in a lawful manner to sustainably manage groundwater in the Subbasin.**

While the Plan generally discusses the authorities provided to local agencies under SGMA, it does not address how the District will implement those authorities to sustainably manage groundwater in the Subbasin in a manner that respects water rights. (See, Plan, § 1.4.2.2 at pp. 1-11→1-13.) Instead, the Plan acknowledges that critical SGMA elements are left entirely unaddressed and explains that the District will evaluate SGMA authorities at a later date to determine how they will be exercised, including triggers for

exercise and implementation mechanisms. (See, *Id.*, § 8.3 at p. 8-5.) This approach violates SGMA for a number of reasons.

Initially, certain SGMA authorities are expressly required to be implemented and exercised through a local agency's SGMA governance document (i.e., GSP or alternative).

> (a) A groundwater sustainability agency may require through its groundwater sustainability plan that the use of every groundwater extraction facility within the management area of the groundwater sustainability agency be measured by a water-measuring device satisfactory to the groundwater sustainability agency.
>
> . . .
>
> (c) A groundwater sustainability agency may require, through its groundwater sustainability plan, that the owner or operator of a groundwater extraction facility within the groundwater sustainability agency file an annual statement with the groundwater sustainability agency setting forth the total extraction in acre-feet of groundwater from the facility during the previous water year.

(Wat. Code § 10725.8 [emphasis added].) Thus, these authorities must be exercised through the Plan and not developed at a later time through a separate process that does not include DWR's review and approval.

Similarly, to the extent that a local agency intends to exercise SGMA authorities as part of management actions to manage a basin and/or address future conditions in a basin, DWR's Regulations require that a GSP or alternative include a description of the authorities and the management actions to be implemented pursuant thereto.

> (a) Each Plan shall include a description of the projects and management actions the Agency has determined will achieve the sustainability goal for the basin, including projects and management actions to respond to changing conditions in the basin.
>
> (b) Each Plan shall include a description of the projects and management actions that include the following:
>
> (1) A list of projects and management actions proposed in the Plan with a description of the measurable objective that is expected to benefit from the project or management action. The list shall include projects and management actions that may be utilized to meet interim milestones, the exceedance of minimum thresholds, or where undesirable results have occurred or are imminent. The Plan shall include the following:
>
> (A) A description of the circumstances under which projects or

management actions shall be implemented, the criteria that would trigger implementation and termination of projects or management actions, and the process by which the Agency shall determine that conditions requiring the implementation of particular projects or management actions have occurred.

(B) The process by which the Agency shall provide notice to the public and other agencies that the implementation of projects or management actions is being considered or has been implemented, including a description of the actions to be taken.

(2) If overdraft conditions are identified through the analysis required by Section 354.18, the Plan shall describe projects or management actions, including a quantification of demand reduction or other methods, for the mitigation of overdraft.

(3) A summary of the permitting and regulatory process required for each project and management action.

(4) The status of each project and management action, including a time-table for expected initiation and completion, and the accrual of expected benefits.

(5) An explanation of the benefits that are expected to be realized from the project or management action, and how those benefits will be evaluated.

(6) An explanation of how the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included.

(7) A description of the legal authority required for each project and management action, and the basis for that authority within the Agency.

(8) A description of the estimated cost for each project and management action and a description of how the Agency plans to meet those costs.

(9) A description of the management of groundwater extractions and recharge to ensure that chronic lowering of groundwater levels or depletion of supply during periods of drought is offset by increases in groundwater levels or storage during other periods.

(c) Projects and management actions shall be supported by best available information and best available science.

> (d) An Agency shall take into account the level of uncertainty associated with the basin setting when developing projects or management actions.

(23 Cal. Code Regs. § 354.44 [emphasis added].) Thus, an alternative must not only describe the authority supporting a management action, but the management action itself. This important substantive and procedural information cannot be left for a later date to be developed outside of DWR's review process. If the District intends to exercise authorities under SGMA as part of its groundwater management in the Subbasin, it must include the required information in the alternative for DWR to evaluate. Because the District failed to take such action, the Plan is substantially deficient and any effort by the District to later exercise SGMA authorities would be unlawful and invalid.

Finally, SGMA authorities and the manner in which they will be exercised must be addressed in a GSP or alternative because their exercise directly relates to the SGMA objective of protecting water rights (e.g., they may unlawfully infringe on groundwater rights). For example, a local agency that exercises SGMA authorities to restrict groundwater extraction (see, Water Code § 10726.4) or impose fees on groundwater extraction (see, *id.* at §§ 10730, 10730.2) could exercise those authorities in a manner that unlawfully infringes upon groundwater rights. As such, the exercise of those authorities must be detailed in the agency's groundwater management governance document (i.e., GSP or alternative) that DWR is required to review and approve in order to ensure that the local agency will sustainably manage groundwater basins in a manner that protects water rights - a primary objective of SGMA. This process is critically important with respect to the District and the Plan for three primary reasons. First, unlike other basins where groundwater sustainability agencies are being formed through collaborative processes that involve multiple agencies and stakeholders, the District was statutorily designated as the exclusive agency for the Subbasin (see, Wat. Code § 10723(m)) and will largely manage the Subbasin through unilaterally imposed management actions. Thus, groundwater right holders in the Subbasin will be left with little ability to provide meaningful input into the SGMA implementation actions in the Subbasin following approval of the District's alternative. Second, unlike most other basins where local agencies are pursuing the longer and more involved process of developing a GSP (due either by January 31, 2020 or January 31, 2022), the District developed and submitted an alternative in a truncated time period to meet SGMA's January 1, 2017 deadline. This rushed submission left the Plan deficient in many ways, as described herein. Third, the District's exercise of groundwater management authority (under the Santa Clara Valley Water District Act) is the subject of active litigation and legal disputes. Approval of a SGMA alternative that entirely fails to address the various and significant SGMA authorities and related management actions sets the Subbasin up for continued and additional disputes. Such disputes would be reduced or entirely avoided if the District develops a SGMA compliant GSP with input from stakeholders.

For the reasons discussed above, the University respectfully requests that DWR reject the District's Plan as an alternative under SGMA. The District must develop and submit a SGMA compliant GSP.

Thank you for your attention to this matter.

Sincerely,

Tom W. Zigterman
Director – Water Resources & Civil Infrastructure

c: Robert E. Donlan – Ellison, Schneider, Harris & Donlan
John L. Varela – SCVWD Board of Directors (jvarela@valleywater.org)
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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

February 17, 2017

William Croyle, Acting Director
California Department of Water Resources
1416 9th Street
Sacramento, California 95814

Dear Mr. Croyle:

The following transmits comments from NOAA's National Marine Fisheries Service (NMFS) regarding Santa Clara Valley Water District's (SCVWD) December 21, 2016, submission of the 2016 Groundwater Management Plan (2016 GWMP) for the Santa Clara and Llagas groundwater subbasins to the California Department of Water Resources (DWR) pursuant to the Sustainable Groundwater Management Act (SGMA) of 2014 (Part 2.74 of Division 6 of the California Water Code) and subsequent Emergency Regulations (CA Water Code 10733.2 and 10733.4). SGMA established a process which allows a local Groundwater Sustainability Agency (GSA) governing a medium or high priority groundwater basin to forgo creating a Groundwater Sustainability Plan (GSP) by submitting an Alternative Plan. By submitting the 2016 GWMP, SCVWD seeks to demonstrate the plan's sufficiency in meeting statutory requirements as outlined under SGMA. The Santa Clara Subbasin is currently classified as a "medium" priority per DWR's Bulletin 118, whereas the Llagas Subbasin is classified as a "high" priority.

California Code of Regulations (23 CCR § 358.2) states "the entity submitting an Alternative shall explain how the elements of the Alternative are functionally equivalent to the elements of a Plan required by Articles 5 and 7 of this Subchapter and are sufficient to demonstrate the ability of the Alternative to achieve the objectives of the Act". One of the objectives of SGMA is for GSAs to establish criteria that will maintain or achieve sustainable groundwater management, which is defined as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results".

NMFS is responsible for protecting and conserving anadromous fish species listed under the Endangered Species Act (ESA), including threatened Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*) residing within the Stevens Creek, Guadalupe River, and Coyote Creek watersheds that overly the Santa Clara Subbasin, and threatened South-Central California Coast (SCCC) steelhead residing within Uvas Creek and Llagas Creek overlying the Llagas Subbasin. Ongoing efforts related to the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE) [1] suggest that current management of surface flows in streams within the Santa Clara Subbasin adversely affect CCC steelhead. A major purpose of flow releases from reservoirs on Coyote

[1] The FAHCE settlement agreement was negotiated to resolve disputes regarding SCVWD's use of its water rights on Coyote, Guadalupe, and Stevens Creeks in Santa Clara County.

Creek, Guadalupe Creek, Stevens Creek, Uvas Creek, and Llagas Creek is to recharge groundwater aquifers downstream. The interaction of groundwater and surface water in these systems, in turn, influences flow-dependent habitats for CCC steelhead, SCCC steelhead, and therefore their survival and recovery.

To ensure that the SCVWD's Alternative properly analyzes and addresses this important issue, we offer the following comments and observations pertaining to the 2016 GWMP and its ability to protect and conserve instream aquatic habitat condition that support ESA-listed steelhead.

Integration with the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE)

Specific to the Santa Clara Subbasin, there are several locations in the document (*e.g.*, sections 6.1.1.2 and 6.3.1) that reference modifying water management practices to reflect environmental regulations or concerns. However, flow release strategies agreed to pursuant to the FAHCE settlement agreement have not been implemented by SCVWD, which suggests managing flows for fisheries has not been fully implemented. We, therefore, suggest the 2016 GWMP clarify these statements or omit them. In either case, this highlights the need to develop an integrated approach to managing surface flow and groundwater resources for the protection and recovery of ESA-listed salmonids.

Ample opportunity exists for such an integrated approach in part because SCVWD has already invested heavily in monitoring and modeling of both groundwater resources and surface water resources, through the 2016 GWMP and FAHCE process, respectively. The FAHCE effort is developing a comprehensive hydrologic model, called the Water Evaluation and Planning System (WEAP), and biological evaluation criteria to determine how well surface water flow meets specific life-stage flow needs of steelhead and Chinook salmon (*O. tshawytscha*) in Coyote Creek, Guadalupe Creek, and Stevens Creek. We recommend these tools be leveraged by those working on SCVWD's 2016 GWMP to provide a meaningful evaluation of the effects of groundwater management on fishery resources.

Sustainability Goals, Strategies, and Outcome Measures

Chapter 5 of the 2016 GWMP frames the SCVWD approach to managing groundwater using Sustainability Goals. The goals are followed by Strategies and Outcome Measures. Stated goals include optimizing water supply reliability, minimizing land subsidence, and protection from contamination. Because the California Water Code definition of sustained yield includes avoiding depletion of surface water flows, a critical component of salmonid habitat, we suggest adding the stated goal of protecting and restoring fisheries resources. The inclusion of this goal in the definition of sustainability should then influence subsequent Strategies and Outcome Measures in a manner that seeks to avoid "undesirable results" per SGMA. This would also support FAHCE efforts to reconcile SCVWD operations with water rights and the ESA.

The first strategy listed in the 2016 GWMP is to manage groundwater in conjunction with surface water. We understand this is a reference primarily to managed recharge; however, NMFS recommends SCVWD include in that definition, the management of groundwater and

surface water interactions. This would be an important strategy to support the goal of protecting steelhead and Chinook salmon habitat.

SGMA Emergency Regulations require GSAs to identify numeric minimum thresholds for each sustainability indicator, including depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of surface water. SCVWD's 2016 GWMP includes Outcome Measures, which are defined as "specific, quantifiable goals", but it does not include numeric thresholds for each sustainability indicator, and thus appears to be deficient with respect to this requirement.

Lack of a Groundwater/Surface Water Analytical Model

With regard to specific analysis required under SGMA, the Emergency Regulations § 354.18(e) states the following:

> Each Alternative Plan "shall rely on the best available information and best available science to quantify the water budget for the basin in order to provide an understanding of historical and projected hydrology, water demand, water supply, land use, population, climate change, sea level rise, **groundwater and surface water interaction**, and subsurface groundwater flow. If a numerical groundwater and surface water model is not used to **quantify and evaluate the projected water budget conditions and the potential impacts to beneficial uses** and users of groundwater, the Plan shall identify and describe an equally effective method, tool, or analytical model to evaluate projected water budget conditions." (emphasis added)

SCVWD presents analysis from three separate analytical groundwater models. However, the models in question are operational, groundwater flow, and water supply system models that do not adequately analyze or inform groundwater-surface flow dynamics within the basins. To ensure compliance with SGMA, SCVWD should develop a numeric groundwater/surface water model to quantify and evaluate projected water budget conditions and potential impacts to beneficial uses (*i.e.,* aquatic habitat) and users of groundwater. This is relevant to avoiding undesirable results, such as impacts to steelhead and salmon. For example, some recharge zones may result in streamflows and water temperatures that are unlikely to support juvenile steelhead rearing.

NMFS appreciates the opportunity to provide comments regarding SCVWD's 2016 GWMP under SGMA. Groundwater management that protects surface flows is essential to ensuring that aquatic habitat and anadromous salmonids persist in streams overlying the Santa Clara Valley and Llagas subbasins. NMFS stands ready to engage with SCVWD, DWR, regulatory agencies and interested stakeholders to craft solutions to groundwater and streamflow issues in both basins.

If you have any questions, please contact Mr. Rick Rogers at the NMFS North-Central Coast Office in Santa Rosa, California (707-578-8552 or rick.rogers@noaa.gov).

Sincerely,

for Alecia Van Atta
Assistant Regional Administrator
California Coastal Office

cc. Trevor Joseph, DWR, Sacramento
Roy Hull, DWR, Red Bluff
Kristal Davis-Fadtke, CDFW, Water Branch, Sacramento
Erik Ekdahl, SWRCB, Sacramento
Vanessa De La Piedra, SCVWD

Literature Cited

National Marine Fisheries Service. 2013. South-central California Coast Steelhead Recovery Plan. National Marine Fisheries Service, West Coast Region, Long Beach, California.

National Marine Fisheries Service. 2016. Coastal Multispecies Recovery Plan. National Marine Fisheries Service, West Coast Region, Santa Rosa, California.

Stanford University

SUSTAINABILITY AND ENERGY MANAGEMENT

Via Regular Mail and Email (jvarela@valleywater.org)

Mr. John L. Varela
Board Chair
Santa Clara Valley Water District
5750 Almaden Expressway
San Jose, CA 95118-3686

March 29, 2017

Subject: Santa Clara Valley Water District's SGMA Alternative Submission

Dear Mr. Varela,

On Friday, March 24, 2017, I attended a meeting of the Santa Clara Valley Water District's ("SCVWD") Water Conservation and Demand Management Committee ("Committee") on behalf of Stanford University ("University"). The University is particularly interested in SCVWD's implementation of the Sustainable Groundwater Management Act ("SGMA") in the Santa Clara Subbasin, and an update on SGMA implementation was provided at the Committee meeting. I appreciated the information shared at the meeting and staff's statements that the Santa Clara Subbasin appears to be in good condition, and their acknowledgment that SGMA implementation within SCVWD's boundaries involves a number of complex issues that require a significant amount of work yet to be undertaken. I stated at the meeting that the University is interested in sustainable management of the groundwater basin, and in working with SCVWD on collaborative development of a comprehensive groundwater management plan.

The University's February 17, 2017 comment letter on SCVWD's SGMA alternative submission addressed a number of the issues and related deficiencies in SCVWD's alternative plan submission that need to be addressed. Given this context, and based on information provided by SCVWD and the discussion at the Committee meeting, the University respectfully requests that SCVWD withdraw its SGMA alternative plan submission and proceed forward with collaborative development of a groundwater sustainability plan through a process that provides for adequate input of genuinely interested stakeholders such as the University, and time to ensure the development of a SGMA compliant groundwater management plan and document.

Thank you for your attention to this matter.

Sincerely,

Tom W. Zigterman

Tom W. Zigterman, P.E., D.WRE
Director – Water Resources & Civil Infrastructure

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GREAT OAKS WATER COMPANY

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March 30, 2017

Trevor Joseph
Sup. Engineering Geologist
Sustainable Groundwater Management Chief
California Department of Water Resources 901 P. Street, Room 213
P.O. Box 942836
Sacramento, California 94236

Submitted Online through SGMA Alternative Plan Portal
and by Email to *Trevor.Joseph@water.ca.gov*

RE: Great Oaks Water Company's
Comments to Santa Clara Valley Water District
SGMA Alternative Plan Submission

Dear Mr. Joseph:

On December 21, 2016, the Santa Clara Valley Water District (SCVWD) submitted an Alternative Plan to the California Department of Water Resources (DWR) under Water Code §10733.6, the general authority of the Sustainable Groundwater Management Act (SGMA), and the regulations pertaining thereto. As discussed below, SCVWD's Alternative Plan is materially incomplete and should be rejected. In the alternative, approval of SCVWD's Alternative Plan should be withheld until the Alternative Plan has been completed in all material respects and resubmitted.

Background

Great Oaks Water Company (Great Oaks) is a water utility serving a population of approximately 100,000 in Santa Clara County, California. Great Oaks is regulated by the California Public Utilities Commission (CPUC). Groundwater produced from wells owned by Great Oaks and located on property owned by Great Oaks provides one hundred percent (100%) of the water served by Great Oaks to its customers.

All of Great Oaks' wells produce groundwater from the Santa Clara Subbasin which is covered by SCVWD's Alternative Plan submission. The Santa Clara Subbasin, like the Santa Clara Valley Basin (Basin 2-9.02) of which it is a part, is not adjudicated. SCVWD

acknowledges that the Santa Clara Valley Basin has been declared a "medium" priority basin by DWR.[1]

Because of its reliance upon groundwater, Great Oaks has been and continues to be concerned that actions of SCVWD under SGMA may not adequately respect rights to groundwater, especially those of Great Oaks. Driven by these concerns, Great Oaks has been proactive in its communications with SCVWD pertaining to SGMA and, most recently, SCVWD's SGMA Alternative Plan submission.

Beginning in November 2014, less than two months after Governor Brown signed the package of legislation that is now known as SGMA into law, Great Oaks initiated a meeting with SCVWD and other interested parties[2] to discuss its concerns. At the meeting, Great Oaks and others requested full disclosure and open communications with SCVWD about SCVWD's utilization of the new legal authorities available under SGMA that may impact groundwater sources and rights. As a result of this meeting, SCVWD committed to Great Oaks and others to fully engage with and include them in any intended actions under SGMA that may have an adverse effect on groundwater production and groundwater rights, including those of Great Oaks. This commitment was verbal.

In June of 2016, during a meeting of SCVWD's Groundwater Subcommittee, SCVWD staff advised Great Oaks and other water utilities in Santa Clara County that it was the District's intention to update its 2012 Groundwater Management Plan (GMP) and submit the updated GMP as an Alternative Plan under SGMA. During that same meeting, the undersigned requested information on the status of the GMP update and was advised that the process had only just begun and was not very far along. The GMP update, which ultimately was submitted as a SGMA Alternative Plan, was performed on an accelerated schedule. Only minimal input from interested parties was permitted.

Great Oaks also participated in efforts initiated by San Jose Water Company in July of 2016 to establish a documented procedure within SCVWD's proposed Alternative Plan for SGMA compliance and control of groundwater extractions under SGMA authorities. These efforts to establish the necessary procedures, including notice and communication, were thwarted by SCVWD. Every proposal made by Great Oaks and other interested parties were rejected. Details of these efforts were provided in Great Oaks' original comment letter to SCVWD's then-proposed Alternative Plan.[3]

The point of Great Oaks' November 22, 2016 "comment letter" was (and still is) that SCVWD's Alternative Plan does not comply with the requirements for an Alternative Plan because it fails to include the required "Notice and Communication" section with the necessary elements of (1) an explanation of SCVWD's decision-making process, and (2)

[1] *See* Alternative Plan, at 1-1.
[2] Among the interested parties were other Santa Clara County water utilities, including San Jose Water Company and California Water Service Company, both of which are also regulated by the CPUC.
[3] *See* Alternative Plan, at A55 – A60.

identification of opportunities for public engagement and a discussion of how public input and response will be used.[4]

The Alternative Plan is also incomplete because it admittedly contains no information at all about how, or if, SCVWD would utilize legal authorities available under SGMA and how, if at all, SCVWD would address the concerns of Great Oaks and others pertaining to groundwater production and groundwater rights. Throughout its Alternative Plan, SCVWD acknowledges that it has not completed (or perhaps not even begun) its own analysis of SGMA legal authorities and how or if use of those legal authorities may impact water producers like GOWC.[5]

In response to GOWC's "comment letter," all SCVWD could muster was a general, very non-specific claim that its Alternative Plan is the functional equivalent of a Groundwater Sustainability Plan (GSP), even if it does not contain all of the elements of a GSP, including the required information on "Communications and Notice" and use of SGMA legal authorities.[6]

Specific Deficiencies in SCVWD Alternative Plan

Great Oaks incorporates by reference herein those deficiencies noted in its November 22, 2016 "comment letter," which was included in Appendix A to SCVWD's Alternative Plan Submission, at pages A55 – A60.

In addition to the deficiencies noted in Great Oaks' "comment letter," the SCVWD Alternative Plan is deficient, and therefore incomplete, in the following ways:

- DWR Emergency Regulations Section 354.44(a) requires that each plan, including SCVWD's Alternative Plan, include a description of the projects and management actions the Agency (SCVWD) has determined will achieve the sustainability goals for the basin, including projects and management actions to respond to changing conditions in the basin. Section 354.44(b) of the same regulations requires specific descriptions of those projects and management actions and the circumstances under which those actions would be implemented. Among the specific requirements of the regulations is the following, found in Section 354.44(b)(7):

  > A description of the legal authority required for each project and management action, and the basis for that authority within the Agency.

SCVWD represents that these required elements are contained in Chapter 6 of its Alternative Plan.[7] However, a review of Chapter 6 of SCVWD's Alternative Plan reveals none of the required information on SGMA legal authorities. This is because, of course,

[4] California Code of Regulations, Title 23, Division 2, Chapter 1.5, Subchapter 2. Groundwater Sustainability Plans, §§354.10(d)(1) and (2).
[5] *See, e.g.*, Alternative Plan at ES-5, ES-6, 1-11, 1-12 – 1-13, 8-2, and 8-3.
[6] SCVWD's Response to Great Oaks' "comment letter" was also provided with its Alternative Plan submission at A97 – A99.
[7] See Appendix B to SCVWD's Alternative Plan – Demonstration of Functional Equivalency – at pages B-21 to B-22.

SCVWD has not completed its analysis of those authorities. Chapter 6 only references the Santa Clara Valley Water District Act as the legal authority for the various projects and management actions listed and described therein. Without the required disclosures of how, when, and if SCVWD would take action under SGMA legal authorities, SCVWD's Alternative Plan is incomplete and may not be accepted.

Additional Information – SCVWD Actions After Its Alternative Plan Submission

Recognizing that its response to GOWC and others about the Alternative Plan deficiencies did not satisfy ongoing legitimate concerns, the SCVWD Board delegated further action to address these concerns to its Water Conservation and Demand Management Committee.[8]

At a meeting on January 25, 2017, the Water Conservation and Demand Management Committee of the SCVWD Board considered a plan to evaluate the SGMA legal authorities as part of a proposed Stakeholder Engagement Plan. A copy of that draft plan is attached hereto as Exhibit A. The draft plan references SCVWD's Alternative Plan and acknowledged that "[n]ew SGMA authorities may have significant implications for water retailers and are of interest to other basin stakeholders."[9]

As you will see in Exhibit A, SCVWD plans to first conduct an "Evaluation of SGMA Fees" that would result in a "preliminary analysis of these fee types by August 2017."[10] At the same time, and on the same schedule, SCVWD will conduct a "preliminary analysis of SGMA pumping regulation authorities by August 2017."[11]

Notably, it will not be until *after* SCVWD completes its "preliminary" analyses of these SGMA authorities that stakeholders will be permitted to review SCVWD's conclusions and provide input. The entire process is projected to conclude in December 2017, with a Committee meeting that may *or may not* lead to action by the full SCVWD Board.[12]

In other words, SCVWD plans to take another full year to review its authority under SGMA and then still may not take any action to satisfy the legitimate concerns of water utilities and others about their groundwater production rights.

Great Oaks fully supports SCVWD's intentions to analyze and better understand the legal authorities and the implications of utilizing those authorities, and Great Oaks expressed its support for the proposal at the January 25, 2017 Board Committee meeting. At the same time, Great Oaks expressed concern about building in another year of delay while SCVWD tries to come to a basic understanding of the SGMA legal authorities that have already been in place for more than two years. Great Oaks requested the schedule under the proposal be accelerated. No action has been taken on that request.

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[8] This action by the SCVWD Board is an admission that the Alternative Plan is incomplete.
[9] See Exhibit A, page 1 of 3. Note that the legal authorities in SGMA are not "new," but have instead been in place for more than two years.
[10] Exhibit A, page 2 of 3.
[11] Exhibit A, page 3 of 3.
[12] Exhibit A, page 3 of 3.

On February 17, 2017, just prior to the original deadline for submitting comments to SCVWD's Alternative Plan, Great Oaks received by email the agenda for the meeting of the Water Conservation and Demand Management Committee of the SCVWD Board scheduled for February 23, 2017. In that agenda was the document attached here as Exhibit B, providing an update on progress made up to that date on SCVWD's analysis of the new SGMA legal authorities. The Committee Agenda Memo provides this update:

> There are no substantive updates at this time, as the related analysis is just beginning. Staff proposes to present general information on groundwater rights and related SGMA issues at the Committee's next meeting.

The agenda for the "Committee's next meeting," held March 24, 2017, included a presentation with very general information on the topic of groundwater rights that were taken from publicly-available sources. It was a basic, if not entirely superficial, presentation. The SCVWD Water Conservation and Demand Management Committee agenda memo for the March 24, 2017 meeting on this topic is attached as Exhibit C.

An email, sent March 21, 2017 about the SCVWD's purported analysis of new legal authorities under SGMA, a copy of which is attached as Exhibit E, says it all:

> On Friday March 24, 2017, the District's Water Conservation and Demand Management Committee will receive an update on the evaluation of new Sustainable Groundwater Management Act (SGMA) authorities.
>
> As noted in the agenda memo for Item 4.2 linked below, <u>there are no substantive updates on the evaluation at this time</u>. Staff will present general information on groundwater rights. (emphasis added)

So, now more than two years after SGMA became law and Great Oaks initiated efforts to determine what, if anything, SCVWD would do with the new legal authorities potentially available to it under SGMA, all interested and affected parties still have no information on this important and essential element of the Alternative Plan. SCVWD openly and repeatedly admits that it has not completed its analysis of SGMA legal authorities. Questions exist as to whether that analysis will ever be completed, and, if completed, whether any action will be taken by the SCVWD Board should it be presented with its legal options under SGMA.

The SGMA Alternative Plan submitted by SCVWD was required to provide specific information about how or if SCVWD would utilize new SGMA legal authorities. The required information was not provided, rendering SCVWD's Alternative Plan incomplete and non-compliant with the controlling regulations.

<u>Requested Action on SCVWD's SGMA Alternative Plan</u>

The simple fact that SCVWD admits it does not yet fully understand what it can or even should do under SGMA legal authorities should be sufficient to convince DWR that SCVWD's SGMA Alternative Plan is incomplete and must be rejected.

That SCVWD believes it will take at least all of 2017 to fully understand current law begs many questions, not the least of which is: How can SCVWD claim its Alternative Plan is complete when its own understanding of what actions SGMA does or does not authorize is admittedly incomplete?

Rejecting SCVWD's Alternative Plan will in no way hinder SCVWD in fulfilling its responsibilities and will not endanger the public in any way, but it will provide interested stakeholders with the opportunity to finally participate in this essential aspect of SGMA and provide the information on SGMA legal authorities that is missing from the Alternative Plan.

Great Oaks requests that DWR reject SCVWD's Alternative Plan for non-compliance with the controlling regulations. In the alternative, Great Oaks respectfully requests that DWR withhold acceptance and approval of SCVWD's Alternative Plan until SCVWD completes its legal analysis and incorporates the appropriate information into the Alternative Plan, all with appropriate input from interested stakeholders who have, so far, been denied that opportunity.

Respectfully submitted,

Timothy S. Guster
Vice President and General Counsel
Legal and Regulatory Affairs

cc: Santa Clara Valley Water District Board of Directors
James Fiedler
Garth Hall
Vanessa De La Piedra

Attachments: Exhibits A through E

Exhibit A

Excerpts from January 25, 2017 Agenda
Santa Clara Valley Water District
Water Conservation and Demand Management Committee

Committee:	Water Conservation and Demand Management
Meeting Date:	01/25/17
Agenda Item No.:	4.2
Unclassified Manager:	Garth Hall
Email:	GHall@valleywater.org

COMMITTEE AGENDA MEMO

SUBJECT: Stakeholder Engagement in Evaluating New Authorities under the Sustainable Groundwater Management Act (SGMA).

RECOMMENDED ACTION:

Discuss the proposed plan to engage stakeholders in the evaluation of new SGMA authorities and provide direction to staff.

SUMMARY:

The Sustainable Groundwater Management Act (SGMA) provides Groundwater Sustainability Agencies (GSAs), like the District, with various authorities to ensure groundwater sustainability. In November 2016, the District Board of Directors (Board) adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) following a public hearing. The GWMP acknowledges new SGMA authorities, including the regulation of pumping and collection of different fee types, as potential tools that may be needed to ensure continued sustainability. Per the GWMP, the District will begin to evaluate these authorities in 2017 in coordination with water retailers and other interested stakeholders. Prior to adopting the GWMP, the Board affirmed a continued commitment to working with stakeholders, and referred consideration of stakeholder engagement on SGMA authorities to the Water Conservation and Demand Management Committee (Committee).

Staff is seeking the Committee's input on the proposed approach to engage stakeholders in the evaluation of new SGMA authorities, which is described in Attachment 1. Staff is also seeking preliminary input from the Committee, water retailers, and other interested stakeholders in terms of specific SGMA authorities and the District's evaluation of those potential tools.

BACKGROUND:

To meet SGMA planning requirements and DWR Emergency Groundwater Sustainability Plan (GSP) Regulations, the District prepared the GWMP as an alternative to a GSP. The Board adopted the 2016 GWMP on November 22, 2016 after a public hearing, and directed staff to work with the Committee on stakeholder engagement options with regard to evaluating new SGMA authorities. On December 9, 2016, the Committee discussed the GWMP public comment letters and the draft District responses. Comment letters from several water retailers focused on concerns related to water rights and the potential regulation of pumping. Several retailers present at the December 9, 2016 meeting indicated a need to clearly define the process by which the District will evaluate SGMA authorities and involve stakeholders in a meaningful way as these authorities have potentially significant impacts on water retailer operations.

The comment letters and related responses were included as an appendix to the GWMP, which was submitted to DWR on December 21, 2016. Any interested person may submit comments on the District's GWMP to DWR

at http://sgma.water.ca.gov/portal/alternative/all during a 60-day public comment period, which ends on February 20, 2017.

Several comment letters were submitted for the GWMP public hearing related to concerns over new SGMA authorities, and the Board noted the need to involve water retailers and other interested stakeholders as the District considers these potential tools. Staff is seeking Committee and stakeholder input on the proposed stakeholder engagement plan related to the evaluation of new SGMA authorities (Attachment 1). Staff is also seeking preliminary input on specific SGMA authorities and the related District evaluation of those authorities.

ATTACHMENT(S):

Attachment 1 – Proposed Stakeholder Engagement Plan

Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities
Proposed Stakeholder Engagement Plan

The District will be evaluating new SGMA authorities to determine how they may support long-term groundwater sustainability and to develop a related framework for implementation should they be needed. This stakeholder engagement plan describes how the District plans to involve water retailers and other interested stakeholders in the evaluation of new SGMA authorities.

Background

The Sustainable Groundwater Management Act (SGMA) provides Groundwater Sustainability Agencies (GSAs), like the District, with various authorities to ensure groundwater sustainability. In November 2016, the District Board of Directors (Board) adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) following a public hearing. The GWMP acknowledges the need to involve stakeholders in the evaluation of new SGMA authorities in GWMP Section 1.4.2:

> "Potential new authorities under SGMA include the ability to regulate groundwater pumping and assess different types of groundwater charges. The District plans to evaluate these new authorities in cooperation with water retailers and other interested stakeholders and consider what conditions might necessitate their implementation to sustainably manage groundwater into the future."

Several water retailers submitted comment letters related to the GWMP public hearing expressing concern with the potential regulation of pumping and interference with water rights and retailer operations. Letters from both San Jose Water Company and Great Oaks Water Company included a proposed Memorandum of Agreement (MOA) between the District and public water retailers based on a shared governance approach. This draft MOA proposed the development of a Water Rights Committee composed of public water retailers and an at-large representative for other pumpers. The draft MOA proposed that this Water Rights Committee develop and implement plans to curtail or allocate pumping, if needed.

Pursuant to groundwater management authority granted by the Santa Clara Valley Water District (District Act), the District has sustainably managed groundwater for the benefit of the community for many decades. While the District maintains sole authority with regard to groundwater management, continued coordination and collaboration with water retailers and stakeholders will help ensure effective management of groundwater resources. New SGMA authorities may have significant implications for water retailers and are of interest to other basin stakeholders. In addition to considering potential groundwater management benefits from these tools, stakeholder input should be carefully considered.

Proposed Forum for Stakeholder Engagement

Prior to adopting the GWMP, the Board affirmed a continued commitment to working with stakeholders, and referred consideration of stakeholder engagement on SGMA authorities to the Board's Water Conservation and Demand Management Committee (Committee). Committee meetings are publicly-noticed and open to any interested person. This forum also allows for interested stakeholders to provide input directly to Board Committee members. Promoting dialog and exchange through this Committee ensures an open and transparent process as the District evaluates new SGMA authorities.

The District maintains a list of stakeholders interested in the development and implementation of the GWMP, and will notify these stakeholders in advance of Committee agenda items related to the evaluation of SGMA authorities. District staff will also provide related updates to water retailers through meetings of the Water Retailers Committee and/or Groundwater Subcommittee.

Preliminary Evaluation of New SGMA Authorities

Potential authorities to regulate pumping or collect different types of fees are complex and have limitations related to water rights, land use authorities, and regulatory requirements. District staff will conduct a preliminary analysis of new SGMA authorities and bring related information to the Committee to facilitate Committee and stakeholder discussion and input. Questions to be considered during the preliminary District analysis of these authorities include:

- What basin conditions might trigger the use of SGMA authorities?
- Which specific SGMA tools are best suited to help ensure sustainability or further the District's ability to manage groundwater?
- What process or steps would be followed prior to implementing these tools?
- How might these authorities be implemented – who would be affected, what actions would be required, etc.?

Evaluation of new SGMA authorities will rely on a phased approach, with Committee and stakeholder input at various milestones as outlined below.

Phase 1 – Evaluation of SGMA Fees

SGMA allows GSAs to impose fixed fees and fees charged on a volumetric basis, including, but not limited to, fees that increase based on the quantity of groundwater produced annually, the year in which the production of groundwater commenced from a groundwater extraction facility, and impacts to the basin. As noted in the GWMP, fees imposed pursuant to SGMA must comply with applicable provisions of Proposition 218.

Currently, the District collects volumetric fees based on the quantity of groundwater produced in accordance with the District Act. The District will conduct a preliminary analysis of the various fees that can be collected pursuant to SGMA to determine if they further sustainable groundwater management or reduce volatility in revenue and rates.

Staff will further define fee types consistent with SGMA and conduct a preliminary analysis of these fee types by August 2017. This analysis will be included on a Committee agenda in late summer 2017 for review and input by the Committee and stakeholders.

Phase 2 – Evaluation of Groundwater Extraction Regulation

SGMA provides GSAs with various authorities related to the regulation of groundwater extraction, including the ability to:

- Impose spacing requirements on new well construction to minimize interference;
- Impose reasonable operating regulations on existing wells to minimize interference, including requiring extractors to operate on a rotation basis;

- Regulate, limit, or suspend groundwater extraction, construction of new wells, enlargement of existing wells, or reactivation of abandoned wells;
- Establish groundwater extraction allocations;
- Authorize temporary and permanent transfers of groundwater extraction allocations; or
- Establish rules to allow unused groundwater extraction allocations to be carried over from one year to another and voluntarily transferred.

SGMA acknowledges limitations related to controlling pumping. Local agencies are not authorized to make a binding determination of the water rights of any person or entity, and must also consider the land-use authority of cities and counties, which is not superseded by SGMA. The potential regulation of pumping is a complex and controversial topic that will require thoughtful analysis and meaningful exchange with those potentially affected.

The preliminary District staff analysis will evaluate specific pumping regulation authorities listed in SGMA to consider when they might be needed (e.g., basin condition triggers) and what would be required for implementation.

Staff will complete the preliminary analysis of SGMA pumping regulation authorities by August 2017. This analysis will be included on a Committee agenda in late summer 2017 for review and input by the Committee and stakeholders.

Phase 3 – Draft Implementation Framework

Based on the preliminary technical analysis and stakeholder input, staff will prepare a draft implementation framework for the new SGMA authorities. This framework will identify the triggers and process for the implementation of these authorities, should they be needed. The proposed process is expected to range from voluntary, collaborative measures to more stringent, mandatory measures based on an increasing threat of harm to the groundwater subbasins. In developing the draft framework, staff will consider Committee and stakeholder input from previous phases, as well as concepts identified in the MOA proposed by San Jose Water Company and Great Oaks Water Company.

The draft implementation framework will be included on a Committee agenda item in December 2017 for review and input by the Committee and stakeholders. The Committee will provide direction to staff in terms of next steps with regard to new SGMA authorities. This could include additional technical analysis, stakeholder engagement, or discussion with the full Board of Directors.

Exhibit B

Excerpts from February 23, 2017 Agenda
Santa Clara Valley Water District
Water Conservation and Demand Management Committee

Committee:	Water Conservation and Demand Management
Meeting Date:	02/23/17
Agenda Item No.:	4.3
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	15 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on the Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities

RECOMMENDED ACTION:

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

SUMMARY:

The Sustainable Groundwater Management Act (SGMA) provides the District with various authorities to ensure groundwater sustainability. Per the District's 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP), the District will evaluate the regulation of pumping and collection of different fee types as potential tools that may be needed to ensure continued sustainability. The Board referred related stakeholder engagement to the Water Conservation and Demand Management Committee (Committee).

On January 25, 2017, the Committee concurred with staff's proposed approach to engage stakeholders in the evaluation of new SGMA authorities. There are no substantive updates at this time, as the related analysis is just beginning. Staff proposes to present general information on groundwater rights and related SGMA issues at the Committee's next meeting.

BACKGROUND:

On December 9, 2016, the Committee discussed the GWMP public comment letters. Several retailers present indicated a need to clearly define the process to evaluate SGMA authorities and involve stakeholders, as these authorities have potentially significant impacts on water retailer operations.

On January 25, 2017, the Committee discussed staff's proposed stakeholder engagement plan (plan) and received stakeholder input. The Committee directed staff to implement the plan as proposed, to provide regular updates to the Committee, and to expedite the analysis if feasible. Under the plan, staff will present preliminary findings on new SGMA authorities to the Committee in late summer 2017 and the draft implementation framework in December 2017. Stakeholders present were generally supportive of the plan.

Staff maintains a list of stakeholders interested in GWMP implementation, and will continue to provide notification of upcoming Committee items related to SGMA authorities.

ATTACHMENT(S):

None.

Exhibit C

Agenda Memo on Groundwater Rights
March 24, 2017
Santa Clara Valley Water District
Water Conservation and Demand Management Committee

Committee:	Water Conservation and Demand Management
Meeting Date:	03/24/17
Agenda Item No.:	4.2
Unclassified Manager:	Garth Hall
Email:	ghall@valleywater.org
Est. Staff Time:	20 minutes

COMMITTEE AGENDA MEMO

SUBJECT: Update on the Sustainable Groundwater Management Act (SGMA)

RECOMMENDED ACTION:

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

SUMMARY:

The Sustainable Groundwater Management Act (SGMA) provides the District with various authorities to ensure groundwater sustainability. Per the District's 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP), the District will evaluate the regulation of pumping and collection of different fee types as potential tools that may be needed to ensure continued sustainability. The Board referred related stakeholder engagement to the Water Conservation and Demand Management Committee (Committee).

The potential regulation of pumping is a complex and controversial topic, and SGMA acknowledges related limitations. Local agencies are not authorized to make a binding determination of the water rights of any person or entity, and must also consider the land-use authority of cities and counties. Staff will present general information on groundwater rights as summarized below.

Staff will also provide an update on public comments received by the California Department of Water Resources (DWR) related to the District's GWMP, which was submitted as an Alternative to a Groundwater Sustainability Plan (GSP).

BACKGROUND:

In 2014, SGMA was enacted as California's first comprehensive, statewide regulatory program for groundwater. SGMA provides Groundwater Sustainability Agencies (GSAs), like the District, with various authorities to ensure groundwater is managed in a sustainable manner. Important for this agenda item, SGMA provides GSAs with various authorities related to the regulation of groundwater extraction by restricting or suspending well production, prohibiting new well construction, imposing well-spacing requirements, and requiring measurement and reporting of groundwater production by well owners. (Water Code §§ 10725.8, 10726.4(a).)

Implementation of the above authorities could impact existing water rights. Water Code § 10726.8(b) provides that, "Nothing in this part shall be construed as authorizing a local agency to make a binding determination of the water rights of any person or entity." While SGMA states that implementation of the statute does not alter water rights, allocating cutbacks on groundwater extractions, for example, will impact a particular user's ability to exercise its groundwater right. As such, significant conflicts could arise in the exercise of a GSA's powers, where water rights priorities are at issue or the equities of a proposed management action are disputed.

Given the intersection between groundwater rights and a GSA's authorities related to the regulation of groundwater extraction, understanding the framework and types of California's groundwater rights law will be important as the District considers whether and how to control pumping under certain circumstances. The following discussion provides a brief overview of California's law on groundwater rights, and is intended to support the Committee's understanding and discussions as District staff moves forward with evaluating SGMA's new authorities.

At the February 23, 2017 Committee meeting, staff reported there were no substantive updates regarding the analysis of new authorities. The preliminary analysis is underway, and staff plans to present related information to the Committee in late summer 2017. Staff provided handouts of three public comment letters submitted to DWR on the District's GWMP by February 20, 2017, the original DWR deadline. On February 21, 2017, DWR announced that the public comment period for Alternatives submitted throughout the state would be extended to April 1, 2017. Staff has since notified the list of interested stakeholders of the revised public comment deadline.

More detailed information on groundwater rights and public comments on the District's GWMP is provided below.

Summary of California Law of Groundwater Rights[*]

Below is a brief discussion of the California law of groundwater rights. These are general provisions and are not intended to discuss specific water rights issues.

1. Reasonable and Beneficial Use Doctrine

Article 10, section 2 of the California Constitution prohibits the waste of water, and requires reasonable use, method of use and method of diversion for all surface and groundwater rights. The doctrine of reasonable and beneficial use is the basic principle defining California water rights: that holders of water rights must use water reasonably and beneficially.

2. Groundwater Rights

California groundwater law is based almost entirely in case law. Unlike the law governing rights to surface water and true underground streams, there is no comprehensive, statewide permitting scheme governing the extraction or use of groundwater.

Groundwater rights attach to percolating groundwater, which includes all groundwater that does not comprise a subsurface stream or the underflow of a surface stream. The courts have established three categories of groundwater rights with respect to native percolating groundwaters.

Overlying Rights

Overlying groundwater rights are analogous to riparian rights to surface water. Each owner of land that overlies a common groundwater supply has a right to reasonable, beneficial use of that water supply on or in connection with the overlying land. The courts have restricted that right to an amount which is reasonable in light of the competing demands of other overlying users; this is often referred to as a correlative right. The quantification of each overlying user's correlative right depends entirely on the facts and circumstances as they exist in the basin. However, the overlying user's correlative right is generally to a reasonable share of the common groundwater supply.

[*] Much of the language provided in this summary was derived from *A primer on California Water Rights*, Gary W. Sawyers, Esq., http://aic.ucdavis.edu/events/outlook05/Sawyer_primer.pdf, and *A Summary of the California Law of Surface Water and Groundwater Rights*, Bartkiewicz, Kronick & Shanahan (2006), http://www.norcalwater.org/wp-content/uploads/bks_water_rights.pdf.

There is no priority in time among overlying users. The correlative right belongs to all overlying landowners in common, and each may use only a reasonable share when the water is insufficient to meet the needs of all.

The overlying right may be used for any reasonable, beneficial use. However, water devoted to public uses (for example, water acquired by municipalities and public utilities for distribution to the public) is not an overlying use.

Appropriative Rights

Water users that do not use groundwater on their overlying land are not barred from using groundwater. Such water users include public agencies and owners of non-overlying land. They may extract groundwater, but their rights are analogous to appropriative rights to surface water. Appropriators generally have the right to take the available surplus from a groundwater basin and apply it to beneficial use inside or outside the basin. “Surplus" means available water not needed to provide for the reasonable, beneficial use by the overlying owners and of which the use of will not create an overdraft condition. There is no restriction as to where the water may be used, and no requirement that the appropriator be a landowner. The water may generally be used for private or public uses without restriction, subject to the requirement that the use of the water must be reasonable and beneficial.

Among appropriators, the priority of each appropriator's right is determined by the relative timing of the commencement of use, i.e., first in time is first in right.

Prescriptive Rights

Prescriptive groundwater rights are not acquired by taking surplus or excess water. An appropriative taking of groundwater that is not surplus is wrongful, and may ripen into a prescriptive right when the use is actual, open and notorious, hostile and adverse to the original owner, continuous and uninterrupted for the statutory period of five years, and under the claim of right. Prescriptive rights do not begin to accrue until a condition of overdraft begins. Therefore, it is first necessary to determine when a condition of surplus ends and overdraft begins.

Once a groundwater basin reaches a condition of overdraft, no new appropriative uses may be lawfully made. Typically, however, appropriators continue extraction activities unless and until demand is made and/or suit is brought. If an appropriator continues pumping from an overdrafted basin for the prescriptive period after the other users from the basin have notice of the overdraft condition, then that appropriator may obtain a prescriptive right good as against any other private user.

Prescription generally may not occur as against public entities and public utilities.

An adjudication or court proceeding is necessary to confirm the existence and scope of prescriptive rights.

Adjudicated Water Rights

Many groundwater rights in California are not quantified, but are simply claimed and/or exercised without objection by other parties. However, when competing demands for a groundwater basin’s water supply become too great, formal adjudications are sometimes commenced by one or more of the competing groundwater users. The authority to adjudicate a groundwater basin exists in State courts, and in limited circumstances, with the State Water Resources Control Board. Adjudications typically take years or even decades to complete because of the complex legal and factual issues involved. Courts often retain continuing jurisdiction over the implementation of the adjudication order.

Public Comments on the District's GWMP

To meet SGMA planning requirements and DWR Emergency GSP Regulations, the District prepared the GWMP as an Alternative to a GSP. The Board adopted the 2016 GWMP on November 22, 2016 after a public hearing. The District received several comment letters related to the public hearing, which were included with related District responses as an appendix to the GWMP. The District submitted the GWMP to DWR on December 21, 2016, beginning a public comment period during which any interested person could submit comments to DWR at http://sgma.water.ca.gov/portal/alternative/all. The DWR comment period for all Alternatives was originally 60 days, with the District's public comment period scheduled to end on February 20, 2017. Three comment letters were posted to the DWR web page by that date. However, on February 21, 2017, DWR extended the comment period for all Alternatives, including the District's GWMP, to April 1, 2017.

Comments from San Jose Water Company (SJWC), Stanford University, and the National Marine Fisheries Service (NMFS) submitted to DWR were handed out at the February 23, 2017 Committee meeting. The comments received from SJWC and Stanford University were similar to comments provided by those agencies during the District's GWMP public hearing. These include assertions that the GWMP is not an acceptable Alternative under SGMA, that the GWMP is deficient in demonstrating functional equivalence to a GSP, and that water rights and SGMA authorities are not adequately addressed. The District respectfully disagrees with these comments and believes that the GWMP adequately demonstrates functional equivalence to a GSP and the intent of SGMA. Comments received from NMFS relate to surface water flows in the Santa Clara Subbasin and the protection of instream aquatic habitat. Several comments relate to the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE). The District Board has recently emphasized its commitment to resolving FAHCE issues and implementing related operational changes as quickly as possible.

Although no formal deadline has been announced, DWR staff prefers that agencies that submitted Alternatives post any related response to public comments on the DWR website by April 1, 2017. Staff is preparing related District responses, and will provide those as handouts to the Committee on March 24, 2017 if available.

ATTACHMENT(S):

None

Exhibit D

March 21, 2017 Email from Santa Clara Valley Water District
Regarding March 24, 2017 Water Conservation and Demand Management
Committee Meeting

Subject: Water Conservation and Demand Management Committee
Date: Tuesday, March 21, 2017 at 10:54 AM
From: GWMP <GWMP@valleywater.org>
To: GWMP <GWMP@valleywater.org>

Interested Parties

On Friday March 24, 2017, the District Board's Water Conservation and Demand Management Committee will receive an update on the evaluation of new Sustainable Groundwater Management Act (SGMA) authorities.

As noted in the agenda memo for Item 4.2 linked below, there are no substantive updates on the evaluation at this time. Staff will present general information on groundwater rights. The meeting will begin at 10:00 am in the District Board Room and the complete agenda is available at:

http://www.valleywater.org/WorkArea/DownloadAsset.aspx?id=15101

Background:

SGMA provides Groundwater Sustainability Agencies, like the District, with various authorities to ensure groundwater sustainability. In November 2016, the District Board of Directors adopted the 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP) following a public hearing. The GWMP acknowledges new authorities conferred by SGMA to the District, including the potential regulation of pumping and collection of different fee types, as available tools that may be needed to ensure continued sustainability. Per the GWMP, the District will begin to evaluate these authorities in 2017 in coordination with water retailers and other interested stakeholders. Prior to adopting the GWMP, the Board affirmed a continued commitment to working with stakeholders, and referred related stakeholder engagement to the Board's Water Conservation and Demand Management Committee.

You are receiving this email because you are on the District's list of interested parties with regard to local groundwater management and compliance with the Sustainable Groundwater Management Act. If you would like to be removed from this list or would like additional information, please contact us at

GWMP@valleywater.org

The Nature Conservancy
Protecting nature. Preserving life.

CALIFORNIA WATER | **GROUNDWATER**

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groundwatercalifornia.org

1 April 2017

Acting Director William Croyle
California Department of Water Resources
P.O. Box 942836
Sacramento, California 94236

Submitted online via DWR's SGMA portal:
http://sgma.water.ca.gov/portal/alternative/all

Re: Alternative Submittal from Santa Clara Valley Water District (basins 2-009.02, 3-003.01)

Dear Director Croyle:

The Nature Conservancy (TNC) appreciates the opportunity to comment on the alternative submittal from Santa Clara Valley Water District (SCVWD) (basins 2-009.02, 3-003.01) under the Sustainable Groundwater Management Act (SGMA).

Background on Our Interest
TNC is a global, nonprofit organization dedicated to conserving the lands and waters on which all life depends. We have over 100,000 California members and seek to achieve our mission through science-based research, planning and implementation of conservation strategies. TNC participated in multiple stakeholder dialogues in framing SGMA policy objectives and worked actively in the legislative process to pass SGMA in 2015.

Our reason for engaging is simple: California's freshwater biodiversity is highly imperiled. We have lost more than 90 percent of our native wetland and river habitats, leading to precipitous declines in native plants and the populations of wildlife that call these places home. These natural resources are intricately connected to California's economy providing direct benefits through industries such as fisheries, timber and hunting, as well as widely shared benefits such as clean water supplies and diverse landscapes that make California America's most biodiverse State. Given the inextricable connection between groundwater and surface water, SGMA must be successful for a sustainable future in California.

California continues to use more water than nature provides. While surface water rights and access to surface water may be curtailed, the balance of water consumed is coming from groundwater – an estimated 60% of California's water during the drought was supplied by groundwater. SGMA provides a path for California to

sustainably manage groundwater so that the critical groundwater reserves are available when surface water is not.

SGMA is now law, but implementation is just beginning. The success of SGMA depends on bringing the best available science to the table, engaging all stakeholders in robust dialog, providing strong incentives for beneficial outcomes and rigorous enforcement by the State of California.

The recently submitted alternatives marks the first opportunity for the Department of Water Resources (Department) to hold local agencies accountable for sustainability. We ask the Department to fully exercise its authorities granted under SGMA to ensure the adequacy of plans. Given our mission "to preserve the plants and animals on which all life depends," we are particularly concerned about the inclusion of nature, as required, in groundwater sustainability plans (GSPs).

"Functionally Equivalent" Requires Fully Addressing Nature's Water Needs

Santa Clara Valley Water District submitted an alternative submittal based an existing plan for two basins. To meet the requirements provided under SGMA, the alternative submittal must:

1. Provide "(a) plan developed pursuant to Part 2.75 (commencing with Section 10750) or other law authorizing groundwater management." (23 CCR §358.2(b)(1)); and
2. "(E)xplain how the elements of the Alternative are functionally equivalent to the elements of a Plan required by Articles 5 and 7 of this Subchapter and are sufficient to demonstrate the ability of the Alternative to achieve the objectives of the Act." (23 CCR §358.2(d)

To be "functionally equivalent," the alternative submittal must fully incorporate the numerous requirements to address nature's water needs under SGMA. While there are certainly additional provisions regarding nature's water needs, for the purposes of our review, we focused on the following:

1. Are groundwater dependent ecosystem (GDEs) identified? (23 CCR §354.16(g)) Are GDEs and surface water dependent species included as beneficial uses? (23 CCR §354.10(a))

2. Are interconnected surface waters identified and are estimates of the quantity and timing of any depletions specified? (23 CCR 354.16(f), §354.28(c)(6)(A))

3. Do water budgets include water needs for managed wetlands and native vegetation, as defined water use sectors, as well as total surface water inflows and outflows? (23 CCR §354.18(b))

4. Do undesirable results and minimum thresholds describe potential effects on beneficial uses (especially GDEs), land uses (including recreational uses) and

property interests (including open space and conservation lands), particularly for the chronic lowering of groundwater, degraded water quality and depletions of interconnected surface waters? (23 CCR §354.26, §354.28, §355.4(b)(4)) Are these undesirable results being avoided? (Water Code §10733.6(b)(3)) Has the basin operated sustainably for at least the past 10 years? (23 CCR §358.2(c)(3))

5. Does the sustainability goal include the environment, and if so, does the plan include measurable objectives and interim milestones to achieve the environmental portion of the sustainability goal within 20 years? (23 CCR §354.30)

6. Does the monitoring network monitor impacts to beneficial uses? (23 CCR §354.34(b)(2))

Our comments related to the above questions are provided in Attachment A: TNC Evaluation of SCVWD's Alternative Submittal. Based on our review, SCVWD's alternative submittal does not meet the requirements to be deemed "functionally equivalent" to a GSP under SGMA. SCVWD has demonstrated a strong commitment to integrated natural resource management across its service area, however important information, such as identifying GDEs, seems to be at least somewhat known to SCVWD but omitted from the plan.

Thank you for fully considering our comments as you evaluate the adequacy of this alternative submittal.

Best Regards,

Sandi Matsumoto
Associate Director, Water Program
The Nature Conservancy of California

Attachment A:
TNC Evaluation of SCVWD Alternative Submittal

1. **Are groundwater dependent ecosystem (GDEs) identified? No. Are GDEs and surface water dependent species included as a beneficial uses? Yes, but beneficial uses are not substantively considered as required throughout the plan.**

   The only reference to the term "groundwater dependent ecosystem" in the plan appears in the Appendix B "Functional Equivalency" chart showing the text of the regulations requiring identification of GDEs.

   The term "ecosystem" only appears in Appendix A7 as text on the District's webpage, in a sidebar entitled "healthy creeks and ecosystems." Upon visiting that website and following the link, the following text can be found:

   > "The more than 800 miles of creeks and rivers in our valley need protection and care. Unique among water districts, state legislation authorizes the district "to enhance, protect, and restore streams, riparian corridors, and natural resources..."
   >
   > Santa Clara Valley encompasses **five major watersheds**. A watershed is the land area from which surface runoff drains into a stream channel, lake, reservoir or the ocean. For example, all the creeks and rivers in the Guadalupe Watershed, including water from storm drains, flow into the Guadalupe River then downstream into San Francisco Bay.
   >
   > The health of a creek reflects the conditions throughout the watershed, not just those along its banks. The water district's **environmental work protects and restores habitats** and encourages the return of endangered species such as the red-legged frog, steelhead trout and salt marsh harvest mouse.
   >
   > In addition, the district also partners with cities and the county to provide **open space and recreational opportunities** at many of its 10 reservoirs and along creeks throughout the county. Since 2000, public access to more than 70 miles of new creekside trails has been made available in the county."
   >
   > Source: visited 2/16/17
   > http://www.valleywater.org/Services/HealthyCreeksandEcoSystems.aspx

This District website indicates the presence of GDEs in the basin. The GDEs are required to be identified in the plan.

The District's glossary definition of beneficial use is, "One of many ways that water can be used either directly by people or for their overall benefit. The State Water Resources Control Board recognizes 23 types of beneficial use with water quality criteria for those uses established by the Regional Water Quality Control Boards".

Beneficial uses in the basin therefore include groundwater dependent ecosystems. However habitat and species are not explicitly included in the plan as a beneficial use in the many provisions requiring consideration of beneficial uses.

2. **Are interconnected surface waters identified and are estimates of the quantity and timing of any depletions specified? No.**

The District provides historical ecology maps intended to indicate where interconnected surface waters historically existed and have the potential to exist today. Current, verified interconnected surface waters were not identified, nor were estimates of the quantity or timing of depletions specified. The alternative submittal suggests that the District may have data that could inform whether water bodies are interconnected and whether and where depletions are occurring, but the District did not provide an analysis of that data, as required by SGMA.

The second paragraphs of Section 2.2.3 and 3.2.3 of the alternative submittal read:

> "The District has a comprehensive surface water monitoring network to measure creek flows, comply with water rights reporting and reservoir restrictions, and meet environmental requirements. Stream gauging by the District is discussed in Chapter 7. Surface water flow data can be used to evaluate which reaches of streams are gaining or losing streams with regard to groundwater. However, the District has not performed a comprehensive evaluation of the data for this purpose."

Without and understanding of whether, where and to what extent depletions are occurring, it is impossible to know whether depletions are causing an undesirable result on interconnected surface waters.

3. **Do water budgets include water needs for managed wetlands and native vegetation, as defined water use sectors? No.**

The water budgets only include domestic, municipal and industrial and agriculture as components of groundwater demands. It is unclear whether managed wetlands exist in the basins, but if they do, the water demand for this use is not included in the water budget. It seems likely that the basins include native vegetation, however water use by this water sector is not included in the water budget.

4. **Do undesirable results and minimum thresholds describe potential effects on beneficial uses, land uses and property interests, particularly for the chronic lowering of groundwater, degraded water quality and depletions of**

interconnected surface waters? No. Are these undesirable results being avoided? Unclear.

The alternative submittal does not describe undesirable results for depletions of interconnected surface waters, nor does it provide a quantitative minimum threshold. Because the alternative submittal does not contain a minimum threshold for interconnected surface waters, it is unclear whether undesirable results are occurring.

Potential effects on GDEs, a beneficial use, from minimum thresholds for the sustainability indicators are not described.

5. **Does the sustainability goal include the environment, and if so, does the plan include measurable objectives and interim milestones to achieve the environmental portion of the sustainability goal within 20 years? No.**

   The sustainability goal does not include the environment.

6. **Does the monitoring network monitor impacts to beneficial uses? No.**

   The monitoring network includes surface flow gages, in part to "meet environmental requirements." (Section 7.4.2) The environmental requirements are not specified and it is therefore unclear whether these gages are sufficient to monitor impacts to environmental beneficial uses.

   It is unclear whether water quality monitoring of groundwater and recharge supplies that contribute to interconnected surface waters adequately captures impacts to environmental beneficial uses, included listed fish species.

   Monitoring of groundwater levels in an around GDEs is not included.

   The District's website seems to indicate that the District at least contemplated ecological monitoring that could help assess impacts to environmental beneficial uses related to groundwater conditions. The website contains a link (http://www.valleywater.org/Services/HealthyCreeksandEcoSystems.aspx, visited 3/20/17) to a report entitled *Ecological Monitoring and Assessment Framework*, dated April 15, 2011. The purpose of the report reads,

   > "This Ecological Monitoring and Assessment Framework Technical Plan (Technical Plan) describes the recommended strategic approach to implementing an ecological monitoring and assessment framework (Framework), to improve the efficiency and effectiveness of the Santa Clara Valley Water District's (District) ecological monitoring activities, as called for in the District Monitoring Activities Evaluation Report (Ali-Adeeb et al. 2002) and the District's Strategic Plan for 2009 – 2014 (SCVWD 2009b). The Framework is one of four key elements included in the

> District's Ecological Monitoring and Assessment Program (EMAP) (Table ES-1). The intent of EMAP is to ensure that cost-effective and timely ecological information, of known quality, is available to inform, evaluate, and improve watershed management decisions."

The monitoring network would greatly benefit from integration of any monitoring under the Technical Plan because ecological monitoring provides critical information on the interaction of groundwater conditions and GDEs.

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Santa Clara Valley Water District

March 30, 2017

Mr. Trevor Joseph
Sustainable Groundwater Management Chief
California Department of Water Resources
Submitted via DWR's SGMA Alternative Portal

Subject: Response to San Jose Water Company's Comments on the Santa Clara Valley Water District's Submitted Alternative to a Groundwater Sustainability Plan

Dear Mr. Joseph:

This letter provides the Santa Clara Valley Water District (District) response to the February 16, 2017 San Jose Water Company (SJWC) comment letter on the District's submitted Alternative to a Groundwater Sustainability Plan (GSP).

As background, the District was formed as a special act district in 1929 to manage groundwater. At that time and through the late 1960s, excessive groundwater pumping caused undesirable results including chronic overdraft, permanent subsidence, and salt water intrusion. District investments in managed recharge, imported water, and infrastructure effectively halted these major problems. Ongoing District programs and investments in diverse water supplies and conjunctive management have maintained sustainable groundwater conditions over many decades despite a growing population.

To ensure a reliable water supply, the District closely coordinates with water retailers, including SJWC, the District's largest customer. However, the District must consider the interests of all beneficial users in fulfilling our mission to protect and augment groundwater. Due to the diverse interests of basin stakeholders, we recognize that not all decisions or investments will be universally supported. We also recognize that in some cases there is significant apprehension over how basins will be managed under SGMA. Groundwater in Santa Clara County has been carefully managed for nearly 90 years, and the District will continue to do so for the benefit of, and in coordination with local beneficial users.

With regard to the SJWC comments, the District respectfully disagrees with the assertion that the 2016 Groundwater Management Plan (GWMP) is not an acceptable Alternative or that it is deficient. Alternatives do not need to conform to GSP requirements but must demonstrate functional equivalence to certain GSP Regulation articles and that they meet the intent of SGMA. The District believes that the GWMP is an acceptable Alternative under SGMA, and that it meets the intent of SGMA, which is to achieve sustainable groundwater conditions. Specifically, the GWMP provides clear evidence of the District's understanding of basin setting and conditions, monitoring to assess related changes, as well as comprehensive programs and numeric thresholds to avoid undesirable results and ensure continued sustainability.

The comprehensive groundwater management framework described in the GWMP is effective, and ensures groundwater conditions remain sustainable. Despite several years of drought, local groundwater levels and storage have generally rebounded due to the GWMP framework. This requires strong coordination with water retailers, and the District looks forward to continued collaboration with SJWC and other stakeholders. The District's detailed response to the SJWC comment letter is attached. The District is also preparing responses to the extensive SJWC comments on the functional equivalence table in GWMP Appendix B (SJWC Attachment B), which will be submitted to DWR and SJWC in April 2017.

Sincerely,

for

Jim Fiedler, P.E., D. WRE
Chief Operating Officer
Water Utility Enterprise

cc: Timothy Guster, Great Oaks Water Company
Jim Simunovich, California Water Service Company
District Board of Directors
N. Camacho, G. Hall, V. De La Piedra

Attachment 1: Detailed Response to SJWC Comment Letter

SJWC Comment 1A: The Submitted Alternative is Not an Acceptable Alternative Under SGMA

SJWC asserts that Water Code Section 10750.1(a) prohibits a new GWMP from being adopted, or an existing GMWP from being amended after January 2015 and that Water Code Section 10750.1(c) only authorizes DWR to review and accept GWMPs adopted prior to January 1, 2015.

Section 10750.1(a) does not apply to the District's 2016 GWMP, which was adopted pursuant to the authorities provided by the District Act. Water Code Section 10733.6(b)(1) allows local agencies to submit Alternative Plans that are developed pursuant to Part 2.75 or other law authorizing groundwater management. Here, the District Act is the authorizing law and, as such, any prescription against adopting or amending plans prepared pursuant to Part 2.75 does not apply to the 2016 GWMP. Even if the 2016 GWMP was developed pursuant to Part 2.75, however, the prescription against adopting or amending a groundwater management plan still does not apply to a plan submitted as an Alternative to a GSP. Section 10750.1(c) states:

"This section does not apply to a plan submitted as an alternative pursuant to Section 10733.6, unless the department has not determined that the alternative satisfies the objectives of Part 2.74 (commencing with Section 10720) on or before January 31, 2020, or the department later determines that the plan does not satisfy the objectives of that part."

Section 10750.1(c) suggests that a groundwater management plan can be amended or adopted after January 1, 2015, as long as it is submitted as an Alternative to a GSP pursuant to Section 10733.6, and DWR determines by January 31, 2020 that the plan satisfies SGMA's objectives.

SJWC Comment 1B: The Submitted Alternative Undermines Collaboration Among Basin Stakeholders

The SJWC comments state that the Submitted Alternative "disregards repeated efforts by the Basin's various water retailers to directly collaborate with the District on the preparation and submittal of a plan, or an Alternative Plan." The letter also states that "because the District's process for making SGMA-related decisions is not set forth in the Submitted Alternative, SJWC is concerned that the District may elect to pursue actions independently and without regard to the interests of the Water Retailers."

The state's emergency regulations for GSPs and Alternatives were adopted in May 2016 leaving agencies developing Alternatives little time to prepare, adopt, and submit by the January 1, 2017 statutory deadline. In recognition of the short timeframe, the District made clear our intent to prepare and submit an updated GWMP as an Alternative, with a focus on updating technical information and acknowledging new SGMA authorities. This strategy was discussed at multiple meetings with the water retailers and in publicly-noticed Board meetings dating back to March/April of 2016. In June 2016, the District encouraged the water retailers Groundwater Subcommittee to review the District's 2012 GWMP, noting "We are not planning to update basin management goals, strategies, or numeric targets as we believe the current ones have been effective." The District did not receive related comments. These goals, strategies, targets, and programs are the backbone of the District's groundwater management strategy and are essentially unchanged in the 2016 GWMP.

Several water retailers expressed concern with new SGMA authorities to regulate pumping and potential interference with water rights, and the District met with these retailers on several

occasions to discuss related issues. Following these meetings, SJWC and another investor-owned water retailer formally recommended a shared governance model as reflected in comments received during the District's public hearing on the 2016 GWMP. These comments, as well as input received from several other stakeholders, were considered by the District Board of Directors prior to adopting the GWMP.

The GWMP does not propose implementing SGMA authorities to regulate pumping. It acknowledges these as potential tools that may be needed in the future to avoid undesirable results but clearly indicates continued collaboration with pumpers is the preferred approach. The GWMP states the District's intent to work with interested stakeholders in 2017 to identify basin conditions that might trigger the need to regulate pumping and mechanisms to ensure effective implementation should use of the tools become necessary. The District recognizes there are complex issues and limitations associated with these authorities related to water rights and land use authority. As such, the District welcomes and encourages input and participation by the water retailers and other interested stakeholders as we assess these authorities, including when and how they might ever need to be used.

With regard to SGMA-related decisions, the District will continue to conduct its business openly and transparently through publicly-noticed meetings, considering the interests of all beneficial users and with opportunities for stakeholder input. At the November 22, 2016 public hearing for the GWMP, the District Board affirmed its commitment to continue working closely with water retailers, and referred related SGMA stakeholder engagement to the Board's Water Conservation and Demand Management Committee. This Board committee has met monthly since December 2016 and stakeholders present at the meetings, including SJWC, have been supportive of the District's approach to evaluate new SGMA authorities in 2017. The District list of interested stakeholders includes water retailers, local land use agencies, regulatory agencies, adjacent water agencies, businesses, non-government organizations and private individuals. Any person or entity can request to be included in this list. The District notifies interested stakeholders of any SGMA-related District Board and Board committee items, as well as relevant news such as the DWR time extension for public comments on Alternatives.

Like SJWC, the District is focused on meeting the water supply reliability needs of our constituents, including SJWC. We believe we have demonstrated an ongoing commitment to managing the basins for the benefit of all groundwater pumpers, including water retailers who are by far the largest pumpers in the Santa Clara Subbasin. The District works closely with SJWC and other water retailers on current operations as well as future water supply needs and investments, and will continue to do so. On major policy issues, the District has not and will not act without input from water retailers and other beneficial users or without regard for their particular interests.

<u>SJWC Comment 2A: The Submitted Alternative Fails to Comply with SGMA's Notice and Communication Requirements</u>

Alternatives do not need to conform to GSP requirements but must demonstrate functional equivalence to certain GSP Regulation articles and that they meet the intent of SGMA. As documented in Appendix A, the District communicated information on planned SGMA compliance on numerous occasions and provided opportunities for stakeholder input. This included publicly-noticed Board meetings and public hearings, multiple meetings with water retailers, and two community meetings.

Chapter 1 of the GWMP describes the structure and charge of the District's elected Board of Directors and describes how the District interacts with stakeholders. As documented throughout the GWMP, the District will continue to engage water retailers and other stakeholders in our work to protect local groundwater resources.

SJWC Comment 2B: The Submitted Alternative Does Not Include a Current or Projected Water Budget for the Basin

The GWMP provides detailed water budget information. Chapter 4 of the GWMP presents the countywide water budget, the long-term average groundwater budget for 2003-2012, and the annual change in groundwater storage. Appendix C provides detailed information on the current (2015) groundwater budget. Chapter 4 also includes future groundwater demand projections through 2040 derived from the District's Urban Water Management Plan.

As noted in the GWMP, the Urban Water Management Plan includes comprehensive information on future water supply and demand projections, water supply challenges and constraints, and water supply reliability. The GWMP also discusses District planning efforts to evaluate and recommend actions for future water supply reliability through the Water Supply Master Plan. The District ensures future water supply reliability through regular, forward-looking planning and appropriate investments, in coordination with water retailers and other interested parties.

SJWC Comment 2C: The Submitted Alternative Fails to Identify Undesirable Results

The GWMP describes the cause and effect of historical undesirable results that have been successfully addressed through District planning and investments, including long-term declines in groundwater levels and storage, land subsidence, and salt water intrusion. Despite the SJWC assertion, the GWMP uses the term "undesirable results" in numerous places in describing basin groundwater management goals, strategies, and programs. The GWMP also states that the groundwater subbasins are sustainable, indicating no undesirable results are occurring, and presents supporting data and information in Chapters 2, 3, and 4.

SJWC Comment 2D: The Submitted Alternative Does Not Satisfy the GSP Regulation's Requirements for the Establishment of Minimum Thresholds

The intent of minimum thresholds is to identify when problems may be occurring so appropriate action can be taken. The outcome measures in the GWMP have proven to be effective in prompting action when needed to maintain sustainable conditions. In 2014, increased pumping and decreased recharge due to drought conditions caused groundwater levels in the Santa Clara Subbasin to approach the subsidence thresholds in the GWMP outcome measure. The District and SJWC took swift and collaborative action to understand the issue and reduce pumping in key areas, resulting in a direct, positive effect on groundwater levels and minimizing the risk of resumed subsidence.

The groundwater storage outcome measure, derived from the District's Water Shortage Contingency Plan, has also proven effective. Based on projected end of year groundwater storage, the Board set related water use reduction targets. The water retailers' response was impressive, reducing overall water use by nearly 30% in 2015 and 2016 compared to 2013 and shifting their sources to more treated water in lieu of groundwater pumping. Coupled with District efforts to secure supplemental surface water, this response caused groundwater levels to improve even with continued drought conditions. Countywide groundwater storage is

estimated to be in the Normal Stage (Stage 1) of the Water Shortage Contingency Plan at the end of 2016 despite five years of drought. This is a significant accomplishment and a testament to effective metrics and collaborative response.

SJWC Comment 2E: The Submitted Alternative Fails to Establish Measurable Objectives

Measurable objectives serve as targets to achieve the basin sustainability goal within 20 years of implementation. Since groundwater conditions are sustainable in Santa Clara County as stated in the GWMP, this concept is not applicable.

SJWC Comment 2F: Monitoring Network Described in Submitted Alternative Does Not Meet Requirements of GSP Regulations

Unlike many basins that have little or no groundwater data, the District has conducted robust groundwater monitoring and analysis for many decades, and the Santa Clara and Llagas subbasins have been extensively studied. As described in the GWMP, the District monitors groundwater levels, quality, and subsidence at hundreds of sites, and analyzes related data to assess changing conditions so that appropriate action can be taken. The District also measures surface water and uses tools like calibrated groundwater flow models to assess groundwater conditions. Groundwater monitoring and modeling efforts are described in detail in Chapter 7 of the GWMP, including monitoring sites, data collection protocols, and reporting. As noted on GWMP page 7-1:

"For all monitoring, the District works to ensure the monitoring locations and data collected provide adequate information to facilitate a comprehensive understanding of groundwater conditions and support informed decision-making. This includes ongoing assessment of data gaps or redundancy, monitoring protocols, and data management, evaluation, and reporting. Specific wells or locations monitored may vary and evolve over time due to issues with well construction or access, but the overall programs provide strong and comprehensive data to assess conditions and trends within the Santa Clara and Llagas subbasins."

The District's monitoring network is extensive, and there are no significant data gaps in the monitoring programs or hydrogeologic conceptual model. Ongoing assessment and adaptation of the program to meet changing needs ensures the District will continue to collect data that supports thorough assessment of groundwater conditions and related decision making.

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Santa Clara Valley Water District

March 30, 2017

Mr. Trevor Joseph
Sustainable Groundwater Management Chief
California Department of Water Resources
Submitted via DWR's SGMA Alternative Portal

Subject: Response to Stanford Comments on the Santa Clara Valley Water District's Submitted Alternative to a Groundwater Sustainability Plan

Dear Mr. Joseph:

This letter provides the Santa Clara Valley Water District (District) response to the February 17, 2017 Stanford University comment letter on the District's 2016 Groundwater Management Plan (GWMP), which was submitted to DWR as an Alternative to a Groundwater Sustainability Plan (GSP).

As background, the District was formed as a special act district in 1929 to manage groundwater. At that time and through the late 1960s, excessive groundwater pumping caused undesirable results including chronic overdraft, permanent subsidence, and salt water intrusion. District investments in managed recharge, imported water, and infrastructure effectively halted these major problems. Ongoing District programs and investments in diverse water supplies and conjunctive management have maintained sustainable groundwater conditions over many decades despite a growing population.

To ensure a reliable water supply, the District closely coordinates with water retailers, including Stanford. However, the District must consider the interests of all beneficial users in fulfilling our mission to protect and augment groundwater. Due to the diverse interests of basin stakeholders, we recognize that not all decisions or investments will be universally supported. We also recognize that, in some cases, there is significant apprehension over how basins will be managed under SGMA. Groundwater in Santa Clara County has been carefully managed for nearly 90 years, and the District will continue to do so for the benefit of, and in coordination with, local beneficial users.

Responding to Stanford's comments, we respectfully disagree that the District's GWMP is deficient. The District believes that the GWMP meets the intent of SGMA, which is to achieve sustainable groundwater conditions. Specifically, the GWMP provides clear evidence of the District's understanding of basin setting and conditions, monitoring to assess related changes, as well as comprehensive programs and numeric thresholds to avoid undesirable results and ensure continued sustainability. Further detailed responses are provided as follows:

Stanford Comment 1: The Plan fails to identify and recognize water right holders in the Subbasin and provide for measures to ensure sustainable groundwater management in a way that protects water right holders.

Alternatives are not required to conform with GSP Regulations, and the District believes that functional equivalence with Section 354.10 of the GSP Regulations (referenced by Stanford) has been demonstrated. Section 354.10 requires a description of the beneficial uses and users of groundwater in the basin, but does not require a list of individual water right holders. The GWMP recognizes water retailers as the primary groundwater users in Section 1.5 (Groundwater Management Partners and Stakeholders) and Chapter 4 (Water Supplies, Demand, and Budget). The GWMP contains detailed information on pumping by municipal and industrial (M&I), domestic, and agricultural users in Chapter 4 and Appendix C.

The groundwater management framework described in the GWMP is essentially unchanged from ongoing District goals, strategies, programs, and outcome measures, which have ensured sustainable groundwater supplies and protected beneficial uses and users. The GWMP does not place, or propose, any restrictions on groundwater extraction or use, and as such, does not impact the underlying water rights.

Stanford Comment 2: The Plan fails to address SGMA authorities and explain how the District will exercise those authorities in a lawful manner to sustainably manage groundwater in the Subbasin.

The comments state that the GWMP does not address how the District will implement SGMA authorities in a manner that respects water rights. Furthermore, Stanford maintains that to the extent that a local agency intends to exercise SGMA authorities, Section 354.44 of the GSP Regulations require a description of the authorities and the management actions to be implemented pursuant thereto.

The GWMP does not propose to implement new SGMA authorities and clearly states that the District will work collaboratively with stakeholders to evaluate the authorities and develop related triggers and implementation mechanisms. As noted in the GWMP, the District recognizes there are complex issues and limitations associated with these authorities related to water rights and land use authority that must be thoughtfully analyzed.

The comprehensive groundwater management framework described in the GWMP is effective and ensures groundwater conditions remain sustainable. Despite several years of drought, local groundwater levels and storage have generally rebounded due to the GWMP framework, which includes strong coordination with water retailers.

At the November 22, 2016 public hearing for the GWMP, the District Board of Directors affirmed its commitment to continue working closely with water retailers, and referred related stakeholder engagement to the Board's Water Conservation and Demand Management Committee. This Board committee has met monthly since December 2016, and we appreciate continued input and participation by Stanford and other stakeholders in these meetings.

Per SGMA and the GSP Regulations, the intent of the DWR review of a GSP or Alternative is to ensure certain administrative requirements are met and to determine if the plan complies with SGMA and substantially complies with relevant GSP Regulations. With regard to the latter, the goal is to assess whether the plan is likely to achieve the sustainability goal for the basin. The

District believes that the GWMP is an acceptable Alternative under SGMA, and that it meets the intent of SGMA, which is to achieve sustainable groundwater conditions. Specifically, the GWMP provides clear evidence of the District's understanding of basin setting and conditions, monitoring to assess related changes, as well as comprehensive programs and numeric thresholds to avoid undesirable results and ensure continued sustainability.

Lastly, the District wishes to clarify that the only subject of active litigation with regard to District groundwater management relates to groundwater production charges.

The District looks forward to continued collaboration with Stanford and other stakeholders.

Sincerely,

for

Jim Fiedler, P.E., D. WRE
Chief Operating Officer
Water Utility Enterprise

cc: Tom Zigterman, Stanford University
District Board of Directors
N. Camacho, G. Hall, V. De La Piedra, E. Soderlund, B. Kassab, G. Cook

5750 Almaden Expressway, San Jose, CA 95118-3614 | (408) 265-2600 | www.valleywater.org

Santa Clara Valley Water District

March 30, 2017

Mr. Trevor Joseph
Sustainable Groundwater Management Chief
California Department of Water Resources
Submitted via DWR's SGMA Alternative Portal

Subject: Response to National Marine Fisheries Service Comments on the Santa Clara Valley Water District's 2016 Groundwater Management Plan

This letter provides the Santa Clara Valley Water District (District) response to the February 17, 2017 National Marine Fisheries Service (NMFS) comment letter on the District's 2016 Groundwater Management Plan (GWMP), which was submitted to the Department of Water Resources as an Alternative to a Groundwater Sustainability Plan. Like NMFS, the District supports an integrated approach to groundwater and surface water management.

Through the Fisheries and Aquatic Habitat Collaborative Effort (FAHCE), the District, NMFS, California Department Fish and Wildlife (CDFW) and other parties are working to support fish and aquatic habitat restoration. The GWMP notes that "although the District is not yet required to implement FAHCE measures, it has moved forward with restoration measures for the protection of fish and wildlife resources consistent with Board policies. In conjunction with flood protection efforts, the District has removed 22 fish passage barriers, laddered and screened water diversions, and collected data to provide a foundation to support fish and aquatic habitat restoration to fulfill elements of the FAHCE Settlement Agreement." Our Board of Directors has expressed a strong commitment to protecting fisheries and aquatic habitat through FAHCE, and we look forward to continued collaboration with NMFS and CDFW in implementing the requirements of the FAHCE Settlement Agreement.

The District's support of an integrated water management approach is also demonstrated through our One Water Plan. The vision of this plan is to manage Santa Clara County water resources holistically and sustainably to benefit people and the environment in a way that is informed by community values. Objectives of this plan include the following:

- Sustainable Groundwater (Objective B): Groundwater subbasins provide critical storage to meet demands during water shortages. The coordinated use of multiple supply sources maintains and augments groundwater. Conservation and the use of surface water supplies and recycled water provides in-lieu recharge by offsetting demands on groundwater. Sustainable groundwater management supports urban, rural, agricultural, and environmental water supply needs.
- Supportive Stream Flows (Objective F): A regionally-, climate- and location-appropriate variety of surface flow patterns – in magnitude, timing, and duration – to support native

habitat complexity and diversity, transport sediment and maintain natural life-cycle cues for fish and other aquatic and riparian organisms.

NMFS recommends that the GWMP include specific goals, strategies, and outcome measures related to the protection and restoration of fisheries resources. The focus of SGMA with regard to surface water/groundwater interaction is to avoid undesirable results related to the depletion of interconnected surface water. As noted in the GWMP, District reservoir and recharge operations extend the duration of flow in intermittent creeks. The District is not aware of any areas where groundwater pumping has a significant or unreasonable effect on interconnected surface water. The GWMP notes the District's strong commitment to protecting aquatic habitat and acknowledges that additional work is necessary to better understand groundwater/surface water interactions in the subbasins. The District plans to conduct additional analysis prior to updating the GWMP by 2022.

NMFS also recommends that the District develop a numeric groundwater/surface water model to quantify and evaluate projected water budget conditions and potential impacts to beneficial uses (i.e., aquatic habitat) and users of groundwater. The District believes that it has relied upon best available information and science in developing its Alternative Plan, but will consider the need for and benefits of such a model as additional assessment of groundwater/surface water interaction proceeds.

The District thanks NMFS for its comments and looks forward to continued collaboration to protect fisheries and aquatic habitat.

Sincerely,

for Jim Fiedler, P.E., D. WRE
Chief Operating Officer
Water Utility Enterprise

cc: Alecia Van Atta, National Marine Fisheries Service
N. Camacho, G. Hall, E. Soderlund, V. De La Piedra, B. Kassab, G. Cook

From: Melissa Stone **On Behalf Of** Board of Directors
Sent: Friday, April 07, 2017 12:23 PM
To: twz@stanford.edu
Cc: Board of Directors <board@valleywater.org>; Trevor.Joseph@water.ca.gov
Subject: RE: Santa Clara Valley Water District's SGMA Alternative Plan Submission

Sent on behalf of Chair Varela

Dear Mr. Zigterman,

Thank you for your letter dated March 29, 2017, regarding the Santa Clara Valley Water District's (District) 2016 Groundwater Management Plan for the Santa Clara and Llagas Subbasins (GWMP), which was submitted to the California Department of Water Resources as an Alternative to a Groundwater Sustainability Plan.

As you know, the GWMP adopted by the Board of Directors (Board) on November 22, 2016 does not propose any new projects or programs related to groundwater management. Although the GWMP acknowledges new SGMA authorities, it does not currently propose any implementation, as they are not now needed to sustainably manage Santa Clara County's groundwater basins. Also, there are related, complex issues associated with water rights and land use that need to be evaluated in coordination with stakeholders such as Stanford. This is why the District is working with Stanford and other stakeholders to further analyze the new SGMA authorities through our Board's Water Conservation and Demand Management Committee.

We look forward to working with Stanford and other interested stakeholders on the continued evaluation of the SGMA authorities and in continuing to implement sustainable groundwater management programs that will benefit all of Santa Clara County. Please feel free to contact Garth Hall, Deputy Operating Officer, at (408) 630-2750 or Vanessa De La Piedra, Groundwater Monitoring & Analysis Manager, at (408) 630-2788 if you have any questions or further concerns.

Sincerely,

John L. Varela
Chair/Board of Directors
Santa Clara Valley Water District

C-17-0151

Committee:	Water Conservation and Demand Management
Meeting Date:	04/27/17
Agenda Item No.:	4.5
Unclassified Manager:	Michele King
Email:	mking@valleywater.org
Est. Staff Time:	5 Minutes

COMMITTEE AGENDA MEMO

SUBJECT: Review of Water Conservation and Demand Management Committee Work Plan, Planning Calendar, any Outcomes of Board Action or Committee Requests and Schedule the next Committee Meeting

RECOMMENDED ACTION:

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

SUMMARY:

The attached Work Plan and Planning Calendar outlines the topics for discussion to be able to prepare policy alternatives and implications for Board deliberation. The work plan and planning calendar are agendized at each meeting as accomplishments are updated and to review additional work plan assignments by the Board.

BACKGROUND:

Governance Process Policy-8:

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

The Board Ad Hoc Committee is comprised of less than a quorum of the Board and/or external members having a limited term, to accomplish a specific task, is established in accordance with the Board Ad Hoc Committee procedure (Procedure No. W723S01), and will be used sparingly. Annually, the purpose of an established Ad Hoc Committee will be reviewed to determine its relevance.

In keeping with the Board's broader focus, Board Committees will not direct the implementation of District programs and projects, other than to receive information and provide advice and comment.

ATTACHMENT(S):

Attachment 1: Water Conservation and Demand Management Committee 2017 Work Plan
Attachment 2: Water Conservation and Demand Management Committee Planning Calendar

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2017 Work Plan: Water Conservation and Demand Management Committee

Update: March 2017

ITEM #	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHED OUTCOMES
1	Update on Golf Course Coalition Proposal	1-25-17 2-23-17 3-24-17 4-27-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee received an update on Golf Course Coalition Proposal and took no action. **Accomplished February 23, 2017:** The Committee received an update on Golf Course Coalition Proposal and took no action. **Accomplished March 24, 2017:** The Committee received an update on Golf Course Coalition Proposal and took no action.
2	Receive Information on Conservation Measure Connections/Obligations addressed in the CA Waterfix	1-25-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee received information on conservation measure connections/Obligations addressed in the CA Waterfix and took no action.
3	Consideration of potential approaches for receiving input from key stakeholders on development of plans, where necessary, for implementation of authorities available to the District under the Sustainable Groundwater Management Act (SGMA)	1-25-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee considered potential approaches for receiving input from key stakeholders on development of plans, where necessary, for implementation of authorities available to the District under the Sustainable Groundwater Management Act (SGMA) and took no action.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

2017 Work Plan: Water Conservation and Demand Management Committee

Update: March 2017

ITEM #	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHED OUTCOMES
4	Receive an Update on the District's Outreach Campaign (HOAs, Neighborhood Groups, Developers, Planning Agencies	1-25-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee received an update on the District's Outreach Campaign (HOAs, Neighborhood Groups, Developers, Planning Agencies and took no action.
5	Review of 2017 Water Conservation Ad Hoc Committee Work Plan and the Outcomes of Board Action of Committee Requests	1-25-17 2-23-17 3-24-17 4-27-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee reviewed their work plan for 2017 and added Safe, Clean Water Conservation Grant Research Results to their work plan. Joined items #11, 12 and 13 to #4 Water Master Plan and correct #14f to read hold conversations. **Accomplished February 23, 2017:** The Committee reviewed their work plan for 2017 and removed item #12 since all of its elements are included in work plan items 1 - 11. **Accomplished March 24, 2017:** The Committee reviewed their work plan for 2017 and took no action.
6	Update on State Water Resources Control Board (SWRCB) (Emergency Regulation; Making Water Conservation a California Way of Life)	2-23-17	Discussion/Action Item	**Accomplished February 23, 2017:** The Committee received an update on State Water Resources Control Board (SWRCB) (Emergency Regulation; Making Water Conservation a California Way of Life) and took no action.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

2017 Work Plan: Water Conservation and Demand Management Committee

Update: March 2017

ITEM #	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHED OUTCOMES
7	Update on the Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities	2-23-17 3-24-17 4-27-17	Discussion/Action Item	**Accomplished February 23, 2017:** The Committee received an update on the Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities and took no action. **Accomplished March 24, 2017:** The Committee received an update on the Evaluation of New Sustainable Groundwater Management Act (SGMA) Authorities and took no action.

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

2017 Work Plan: Water Conservation and Demand Management Committee

Update: March 2017

ITEM #	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHED OUTCOMES
8	Presentation on Conservation and Demand Management Elements of the Draft 2017 Water Supply Master Plan Include in the plan: Water Use Efficiency Standards and Requirements • Green Business Program • LEED certification • CalGreen • Ordinances Information on new technology related to water conservation, including: • Smart metering (AMI), • Leak detection/repair • Others? If needed, invite experts to present to the Committee Should District invest/get involved in development of new local water, i.e. • Rainwater harvesting • On-site storm water retention • Infiltration of high quality storm water • Gray Water *Committee to review the issue question, and include working with cities on building codes and future planning, offering incentives, and identifying District role.*	1-25-17 3-24-17	Discussion/Action Item	**Accomplished January 25, 2017:** The Committee received a presentation on conservation and demand management elements of the Draft 2017 Water Master Plan and took no action. **Accomplished March 24, 2017:** The Committee received a presentation on conservation and demand management elements of the Draft 2017 Water Master Plan and took no action.
9	Making Water Conservation a California Way of Life)	4-27-17	Discussion/Action Item	
10	Pending Legislation Relating to Water Conservation and Demand Management	TBD	Discussion/Action Item	

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

2017 Work Plan: Water Conservation and Demand Management Committee

Update: March 2017

ITEM #	WORK PLAN ITEM	MEETING	ACTION/DISCUSSION OR INFORMATION ONLY	ACCOMPLISHED OUTCOMES
11	Water Budget-based rates	TBD	Discussion/Action Item	
12	Upcoming Board Agenda Item related to Water Conservation and Demand Management	TBD	Discussion/Action Item	

Yellow = Update Since Last Meeting

Blue = Action taken by the Board of Directors

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Water Conservation and Demand Management Committee Planning Calendar

Santa Clara Valley Water District

June 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
1.The water conservation and demand management components of the Water Supply Master Plan (AMI, leak detection, rainwater harvesting, stormwater capture, model ordinance, etc) 2. Outreach/Messaging 3. SGMA Update – Potential Basin Triggers Related to SGMA Authorities 4. SGMA Update – Discussion of Fixed and/or Tiered Fees						
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Water Conservation and Demand Management Committee Planning Calendar

Santa Clara Valley Water District

July 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4 **Independence Day Holiday**	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

Water Conservation and Demand Management Committee Planning Calendar

Santa Clara Valley Water District

August 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
1. The water conservation and demand management components of the Water Supply Master Plan (AMI, leak detection, rainwater harvesting, stormwater capture, model ordinance, etc) 2. Golf Course Proposal 3. SGMA Update – Preliminary Analysis of Groundwater Extraction Regulation 4. SGMA Update – Preliminary Analysis of SGMA Fees						
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Water Conservation and Demand Management Committee Planning Calendar

September 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	2
3	4 Labor Day Holiday	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

Water Conservation and Demand Management Committee Planning Calendar

October 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1	2	3	4	5	6	
1. State Long-Term Framework: Making Conservation a Way of Life 2. Outreach/Messaging 3. SGMA Update – SGMA Authority Implementation Framework Concepts 4. Legislative Update						
8	9 **Columbus Holiday**	10	11	12	13	
15	16	17	18	19	20	
22	23	24	25	26	27	
29	30	31				

Water Conservation and Demand Management Committee Planning Calendar

November 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1	2	3	
5	6	7	8	9	10 **Veterans Holiday**	
12	13	14	15	16	17	
19	20	21	22	23 **Thanksgiving Holiday**	24 **Thanksgiving Holiday**	
26	27	28	29	30		

Water Conservation and Demand Management Committee Planning Calendar

Santa Clara Valley Water District

December 2017

TOPICS:

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1	
1. The water conservation and demand management components of the Water Supply Master Plan (AMI, leak detection, rainwater harvesting, stormwater capture, model ordinance, etc) 2. Golf Course Proposal 3. SGMA Update – SGMA Authority Draft Implementation Framework and Next Steps						
3	4	5	6	7	8	
10	11	12	13	14	15	
17	18	19	20	21	22	
24	25 CHRISTMAS HOLIDAY	26	27	28	29	
31						