

Drought Emergency Response Report

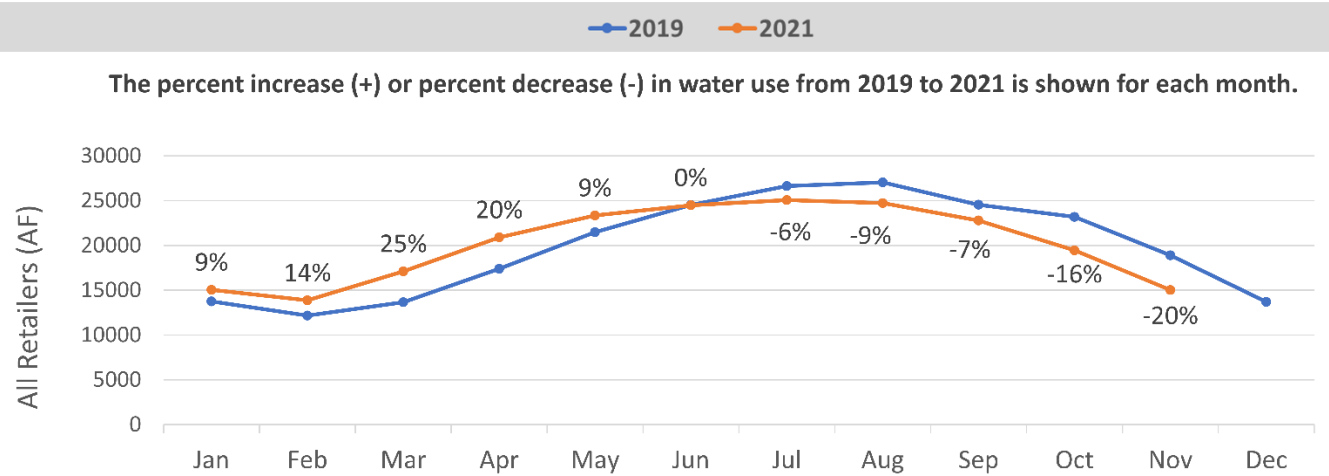
DECEMBER 2021

Resolution 21-68 Implementation

On June 9, 2021, the Board adopted Valley Water Resolution 21-68 which declared a water shortage emergency condition pursuant to California Water Code §350, called for water use reduction of 15% compared to 2019, and urged the County of Santa Clara (County) to proclaim a local emergency. The County adopted a Resolution ratifying the proclamation of a local emergency due to the drought on June 22, 2021. California’s Governor included Santa Clara County as part of a drought emergency proclamation on July 8, 2021, and this proclamation included all California counties on October 19, 2021. Valley Water activated its Emergency Operations Center (EOC) on June 16, 2021 to assist with resolution implementation and other drought-related efforts.

Retailer Water Use Reduction

The graph below depicts total water use from the 13 retailers in Santa Clara County to help track progress towards achieving Valley Water’s 15% call for water use reduction made in June 2021.



- After months of progress, Santa Clara County met Valley Water’s call to reduce water use by 15% compared to 2019. Valley Water’s retailers used 20% less water in November 2021 compared to November 2019.
- Valley Water’s retailers first met this call in October 2021. They used 16% less water in October 2021 compared to October 2019.
- We thank jurisdictions and the community for helping us achieve the goal of a 15% reduction in water use countywide.
- Rains received in October and November may have helped us reach our goal. Rain often results in a decrease in outdoor water use.
- Based on data from the past drought, we know that savings tend to fluctuate month to month and may be lower in winter months due to decreased irrigation, so we do anticipate that consistently maintaining a 15% reduction in water use each month will be challenging.
- We encourage our communities to keep up the great work in using less water during this drought.
- Valley Water continues its outreach to the media and community to encourage residents, businesses, farms, and others to save water in order to achieve a cumulative 15% reduction in water use in 2022.

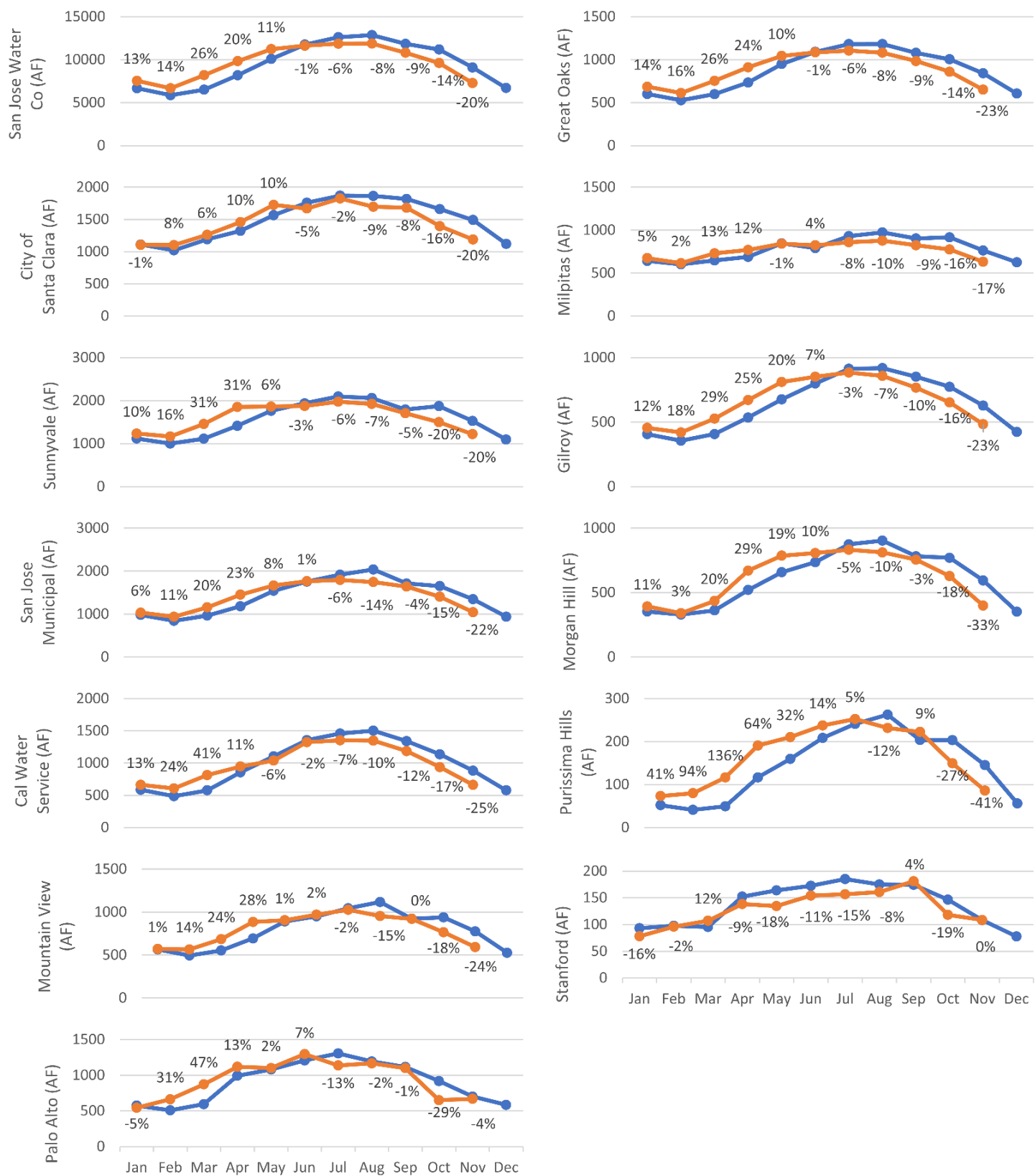
These graphs depict water use by each of Valley Water’s 13 retailers to help track progress towards achieving the 15% call for water use reduction made in June 2021. Note that City of Palo Alto Utilities (Palo Alto) and Purissima Hills Water District (Purissima) normally do not use Valley Water sources of water. A large proportion of water used by the City of Mountain View Public Works (Mountain View) and Stanford Utilities (Stanford) is not from Valley Water sources.

Monthly Water Use by Retailer (AF)

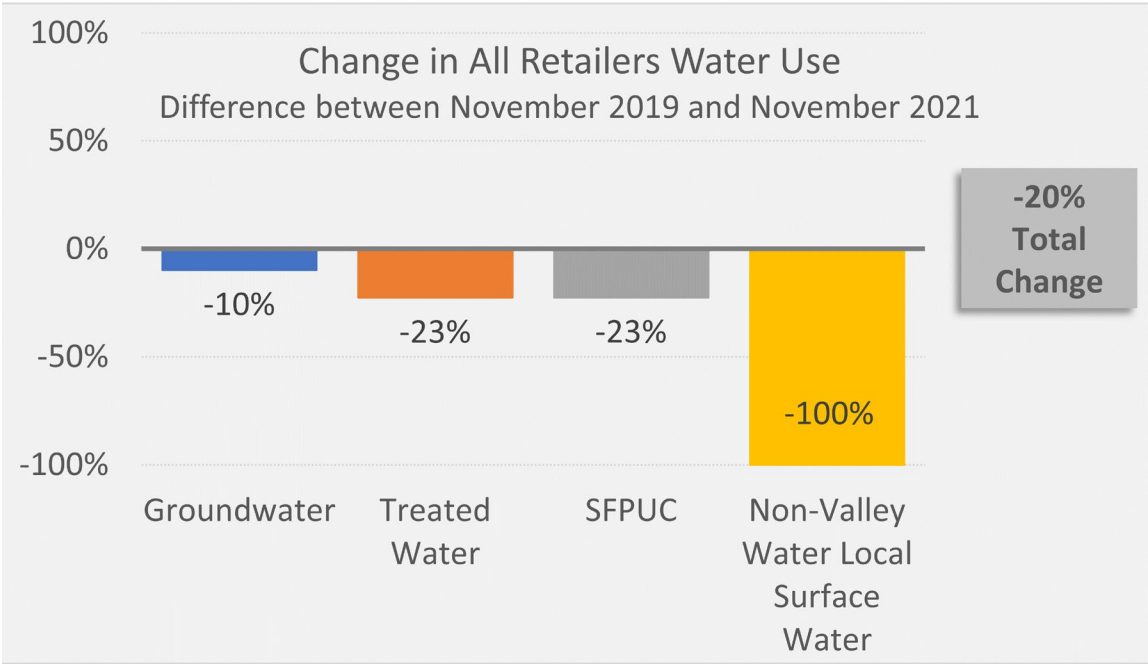
2019

2021

The percent increase (+) or percent decrease (-) in water use from 2019 to 2021 is shown for each month.



The graph below depicts changes between the retailers’ different types of water use and shows that Valley Water retailers’ total water use in November 2021 was 20% lower than in November 2019. As expected, the proportion of groundwater use tends to increase during drought.



The table below shows Valley Water retailers’ water usage volumes by type.

Water Retailer	Total Water Use in Acre-Feet (Jan - Nov 2019)					Total Water Use in Acre-Feet (Jan - Nov 2021)				
	Groundwater	Treated Water	SFPUC	Non-Valley Water Local Surface Water	SUM	Groundwater	Treated Water	SFPUC	Non-Valley Water Local Surface Water	SUM
San Jose Water Company	28,800	61,900	-	16,000	106,600	50,000	55,700	-	800	106,500
Santa Clara, City	9,300	4,100	3,200	-	16,700	9,200	3,500	3,400	-	16,100
Sunnyvale	100	7,400	10,200	-	17,700	100	8,200	9,500	-	17,800
San Jose Municipal Water	900	10,600	4,500	-	15,900	1,000	10,400	4,200	-	15,600
California Water Service	2,300	9,000	-	-	11,300	4,000	6,900	-	-	10,900
Palo Alto	-	-	10,200	-	10,200	-	-	10,300	-	10,300
Mountain View	200	1,000	7,800	-	8,900	100	900	7,800	-	8,800
Great Oaks	9,800	-	-	-	9,800	9,800	-	-	-	9,800
Milpitas	-	3,000	5,700	-	8,700	-	3,200	5,200	-	8,400
Gilroy	7,300	-	-	-	7,300	7,400	-	-	-	7,400
Morgan Hill	6,900	-	-	-	6,900	6,900	-	-	-	6,900
Purissima Hills Water	-	-	1,700	-	1,700	-	-	1,900	-	1,900
Stanford	-	-	1,600	-	1,600	-	-	1,400	-	1,400
Total	65,600	97,000	44,900	16,000	223,300	88,500	88,800	43,700	800	221,800

Collaboration with the County, Retailers, and Cities

- As of December 31, 2021, the County of Santa Clara and 13 cities in Santa Clara County have taken formal action to their elected boards in response to the drought conditions and to Valley Water’s call to reduce water use by 15% compared to 2019 levels.
- At the December 9, 2021, Housing, Land Use, Environment and Transportation Committee (HLUET) Committee for the County of Santa Clara, the HLUET Committee unanimously adopted the Drought and Water Conservation Report presented by the Office of Sustainability and provided direction for the Administration to develop a programmatic and infrastructure plan for water conservation. County staff will explore opportunities and partnerships with agencies like Valley Water for expanded County conservation measures. Valley Water staff is working closely with County staff on this effort, and on December 15, 2021, staff from the County Office of Sustainability participated in Valley Water’s Drought Response Plan Task Force meeting.
- As of December 14, 2021, Cal Water’s Stage 2 water use restrictions are in place.

Water Conservation Programs

Valley Water is actively promoting ways people can save water through rebates, free water-saving devices, and behaviors. The Landscape Rebate Program provides rebates for converting high-water use landscape to low-water use landscape, as well as retrofitting existing irrigation equipment with approved high-efficiency irrigation equipment. The Shopping Cart (eCart) Program offers free water-saving devices to homes and businesses. The Water Waste Program enables callers to confidentially report water waste and leaks, which Valley Water addresses by providing educational assistance to the owner of the leak.

- Valley Water has received a significant increase in applications for our landscape rebates, requests for water-saving devices, and reports of water waste in 2021. The table below shows monthly participation data available

from 2021. In December, Valley Water received 106 applications for the Landscape Rebate Program (LRP), 452 orders for water-efficient devices from our website, and 82 water waste reports. These are signs that people are taking this drought seriously and are taking actions to support water use reduction.

Program	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Total
Landscape Rebate Program Applications ¹	47	64	87	233	252	185	592	376	278	268	182	106	2,670
Water-saving Device Orders ²	2	7	9	372	748	488	865	974	485	175	935	452	5,512
Water Waste Reports	5	4	26	42	53	180	238	223	206	163	118	82	1,340

¹Starting July 1, 2021, the landscape rebate was increased from \$1 to \$2 per square foot and the maximum rebate was increased from \$2,000 to \$3,000 for single-family homes.

²The eCart Program, launched in April, led to an increase in conservation device orders.

Drought and Water Conservation Outreach

- In December, multi-language radio, TV, digital and social media ads highlighted Valley Water’s effort to increase conservation and expand our county’s use of purified water.
- Media continues to be interested in the drought and recent storms. Valley Water board members and staff highlighted to the media the importance of continuing to conserve water despite substantial rainfall from recent storms.
- Valley Water partnered with the City of Sunnyvale to run an ad from our Purified Water & Conservation campaign in two movie theaters. Based on availability, Sunnyvale would like to continue this same form of advertising in March using our “Is your yard drought ready?” and “Is your home drought ready?” commercials. Staff is exploring partnerships with other cities to run similar ads in their movie theaters.
- On social media, Valley Water continued to provide drought and conservation messaging. Efforts included a series of posts to remind people to turn off their outdoor irrigation before, during and after storms, and an animation with outdoor watering tips. Valley Water also shared a social media graphic to share the news that Santa Clara County reached its conservation goal of 15% reduction in water use in October and November. This post saw the highest engagement of all posts in December without additional monetary boosting.
- There were two Speakers Bureau Program presentations focused on the drought, water conservation, and water supply in December 2021. On Dec. 10, Vice Chair Kremen and staff presented to Leadership Sunnyvale as part of that group’s Special District Day. On Dec. 16, Director Varela and staff provided an in-person presentation to the Sons in Retirement group in Gilroy.
- Vice Chair Kremen also presented to the Evergreen Islamic Center on December 11, 2021 on Valley Water’s conservation efforts, in connection with a seminar that was funded through Valley Water’s Mini-Grants Program.
- Valley Water continues to share water conservation tips, tools, rebates, and programs on our social media pages, including the Sustainable Landscape Guide.

Statistics for public outreach efforts are shown below.

Outreach Type	December 2021
Social Media¹	
Impressions ²	2,420,642
Engagements ³	22,306
Link Clicks	13,626
Video Views	210,032
Website Page Views	
Water conservation webpages	17,116
BeHeard.ValleyWater.org/drought-information	179
Media	
Media Mentions ⁴	705
Speakers Bureau	
Presentations ⁵	2

¹Includes Facebook, Twitter, Instagram, and LinkedIn
²Impressions are the number of times a post is displayed in a newsfeed.
³Engagements are the number of times a user interacts with a post, such a retweet, click, and more.
⁴Includes TV, radio, social media, online and print
⁵ Office of Communications and Government Relations

Drought and Water Conservation Education

- In December, the Education Outreach team reached 295 students through 15 virtual classroom presentations. The team also supported 15 educators this month. The team engaged 67 members of the public through three Wonders of Water Wednesdays after-school enrichment programs and two public library programs.

Program	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Educators/Teachers	52	19	93	8	20	24	37	15
Classes/Groups	58	18	27	8	11	24	45	15
Students	1,483	415	499	99	292	586	770	295

- Additionally, in December, staff worked with the Valley Water Youth Commission to develop a “Youth Drought Messaging Toolkit” to promote the importance of water conservation to Santa Clara County youth.

Committee Updates

- Drought-related updates are being provided regularly at Committee meetings to receive feedback and guidance. These updates were provided to the Water Conservation and Demand Management Committee on December 20, 2021.

Water Supply Operations and Outlook

On December 28, 2021, the U.S. Drought Monitor indicated an improvement in drought status for Santa Clara County, with the majority of the county in Severe drought and the northeastern portion in Extreme drought. Following rainfall from October - December 2021, local reservoir storage increased by 16%. Local reservoir storage was 28% of capacity on December 31, 2021 and remains below average (66% of the 20-year average).

Imported Water

- State Water Project (SWP) and Central Valley Project (CVP) allocations for 2021 remained stable at the following:
 - SWP – 5%
 - CVP Agricultural - 0%
 - CVP Municipal and Industrial (M&I) – 25%
- An additional CVP M&I Public Health and Safety increment of 28,500 AF was delivered by the end of December 2021.
- In 2021, Valley Water secured agreements for about 58,000 AF of emergency transfer supplies, before taking into account conveyance losses across the Delta. The California Department of Water Resources (DWR) and the U.S Bureau of Reclamation (Reclamation) successfully conveyed all of Valley Water’s emergency transfer supplies in September and October 2021. Some of this water is currently being delivered to Valley Water and a portion is being stored in San Luis Reservoir for delivery in 2022. Valley Water is now exploring opportunities to secure additional emergency transfer supplies in 2022, if necessary.
- In addition, recovery of Valley Water’s supplies at the Semitropic Groundwater Storage Bank continue as scheduled with Valley Water regularly coordinating with DWR to secure reliable delivery of this supply, about 35,000 AF, in 2021. Valley Water is coordinating with DWR and other Semitropic banking partners on delivery of Valley Water’s banked water next year if 2022 is a dry year.
- On December 1, 2021, DWR issued a Notice to State Water Project Contractors stating that the initial 2022 State Water Project allocation will be based on unmet minimum human health and safety needs. Exceptions to the minimum health and safety need of 55 gallons per capita per day may be requested for DWR's consideration and approval. Valley Water submitted a request for human health and safety water on December 16, 2021 and is currently working with DWR to confirm the specific quantity allocated.
- Reclamation has indicated that it will prioritize deliveries for public health and safety if 2022 is dry but is not expected to make its initial CVP allocations until late February 2022. Valley Water submitted its request for 2022 PHS water on December 29th to ensure water supply reliability and operational continuity until water supply conditions are better known.
- As of December 29, 2021, the Sierra Nevada snowpack, a primary source of imported water, is at 145% of normal for this date and 50% of the April 1 average, which is the date at which snowpack has historically been at its maximum. While storms have increased inflows to major reservoirs, much of the precipitation fell as snow and storage levels are still below normal compared to historical averages. In December, Shasta Reservoir has gained approximately 201 TAF and storage levels are 50% of normal for this date, while Oroville gained 282 TAF and storage is at 73% of normal. Folsom Reservoir, which is much smaller, has gained 226 TAF and is at 146% of normal. However, storage levels in these reservoirs are still quite low, and are only at 29%, 38%, and 60% of capacity, respectively.

- As of December 29th, total storage in San Luis Reservoir is approximately 603,000 AF, which is an increase of approximately 120,000 AF since the end of November. As a result, Valley Water does not anticipate any additional water quality impacts this winter. Valley Water will continue to monitor the water quality at the reservoir and will adjust the treatment process as needed to mitigate water quality impacts if low storage conditions resume in 2022.

Treated Water

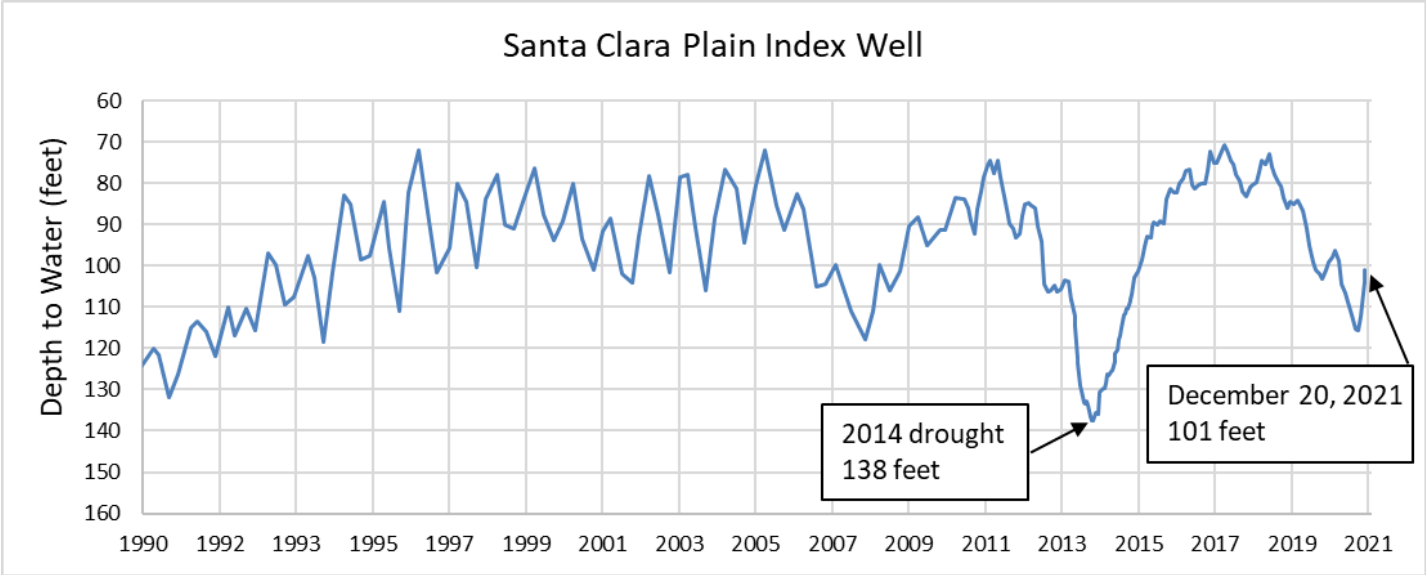
- San Luis Reservoir water level continued to increase.
- Taste and odor and cyanotoxins compounds have been relatively low for all source water.
- There were no reports of water quality issues for the treated water in December 2021 and no complaints were received from retailers.

Groundwater Recharge

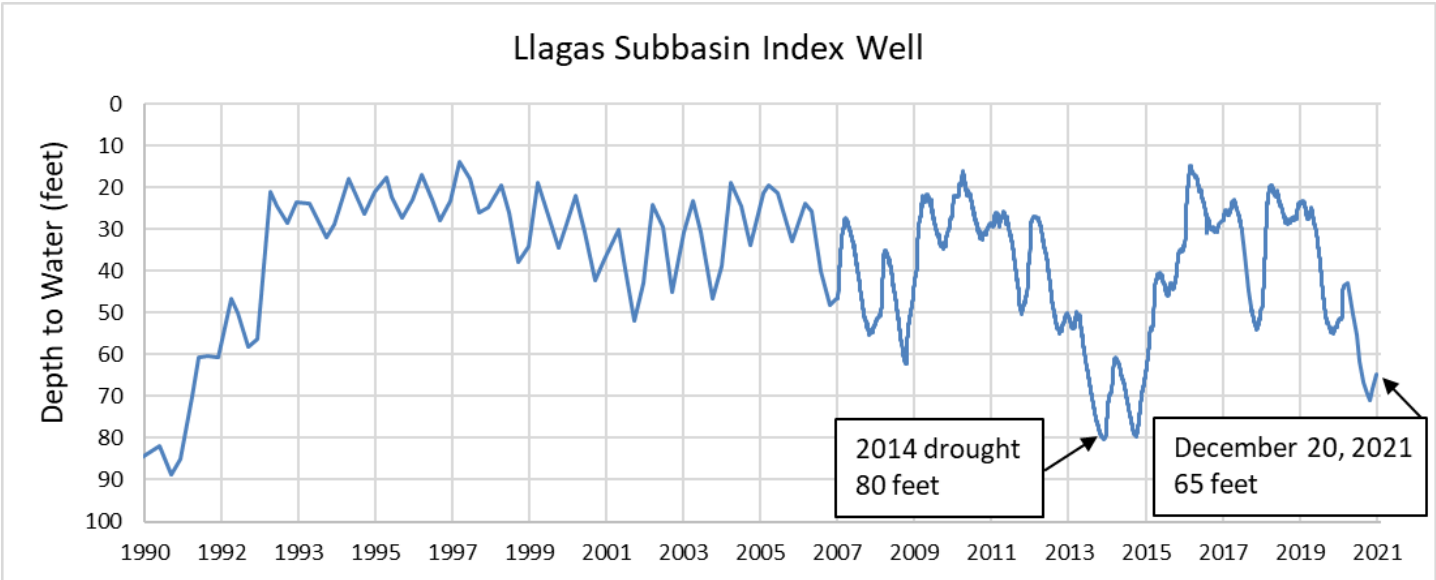
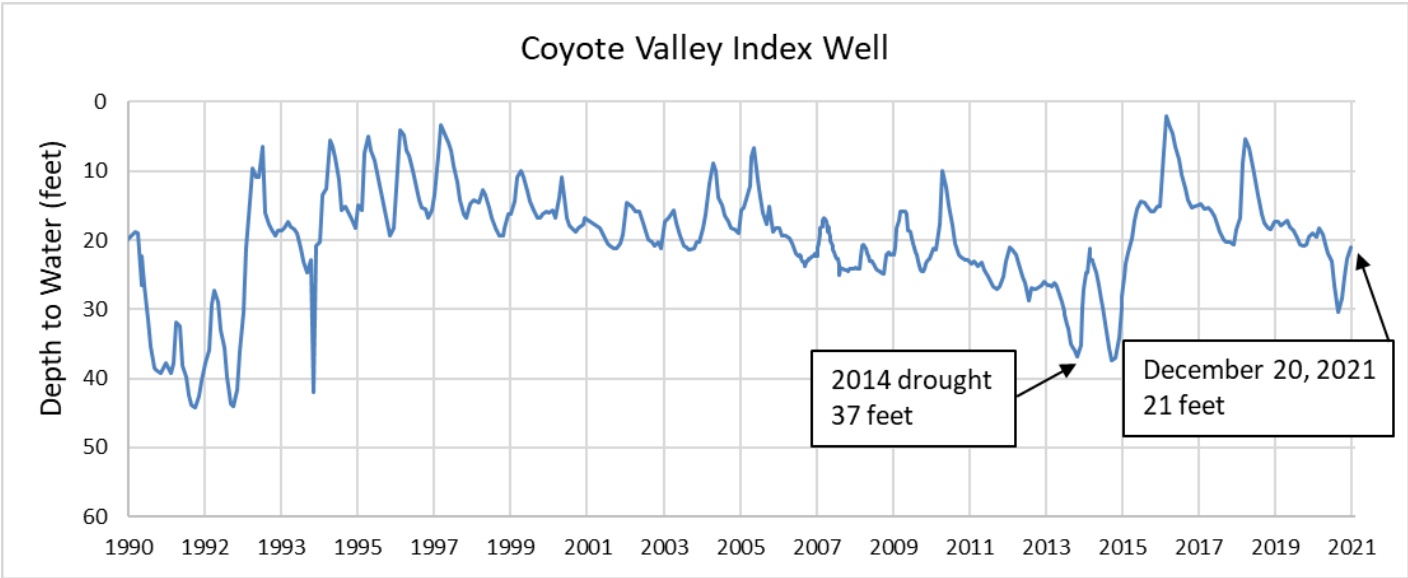
- Releases for managed groundwater recharge in December 2021 are similar to August - November 2021 and higher relative to May-June 2021.
- The increase in imported water releases during the second half of 2021 relative to the first half of 2021 was possible due to additional Public Health and Safety supplies received in 2021.
- Despite the increased groundwater recharge in August - December 2021, recharge in 2021 is below that of an average year.

Groundwater Conditions:

- While the seasonal recovery has begun to stabilize or increase groundwater levels in many areas of the county, groundwater levels continue to decline due to the drought in some areas. Emergency imported water supplies and water use reduction by the community have begun to help slow groundwater level declines. However, if dry conditions continue and the Board’s water use reduction target is not met consistently, projected 2022 groundwater storage is similar to what was observed in 2014. This would increase the risk in 2022 of resumed subsidence in North County and wells going dry, particularly in South County. Current conditions in both areas are described below.
- North County Conditions
 - Groundwater pumping is 122% of the five-year average.
 - As shown below, groundwater levels in the Santa Clara Plain index well have declined due to dry conditions, with a similar pattern as the 2012–2016 drought. However, the current water level has increased by three feet since last month and is about 37 feet above the minimum water level in 2014. The water level at this well is about two feet lower compared to this time last year.
 - Groundwater levels are more than about 60 to 100 feet above thresholds established to minimize the risk of permanent subsidence.
 - No reports of dry wells have been received.



- South County Conditions
 - Groundwater pumping is 124% to 103% of the five-year average in the Coyote Valley and Llagas Subbasin, respectively.
 - Groundwater levels in the Coyote Valley and Llagas Subbasin index wells have dropped about 2 to 13 feet, respectively, compared to this time last year. However, the Coyote Valley index well water level has risen about two feet since last month. The current water level in the Coyote Valley and Llagas Subbasin index wells is about 16 and 15 feet above the respective minimum water levels in 2014.
 - One report of a dry well has been received. The well is in unincorporated area within the southwestern Coyote Valley and is close to the foothills where well yield is generally less reliable.



State Coordination

- In early December, Valley Water provided a drought status update to each office of the Santa Clara County state legislative delegation. The updates included a review of conditions that led to the Valley Water Board’s declaration of a Water Shortage Emergency Condition in June, the efforts to procure and deliver emergency water transfers and exchanges, the challenges with salinity intrusion in the Delta, and the critical need to maintain groundwater levels to prevent subsidence.
- The State Water Resources Control Board (State Water Board), which had reimposed many water rights curtailments in November, suspended the curtailments in advance of the series of December storms which both increased reservoir storage and significantly increased the Sierra snowpack.
- State Water Board curtailments are based on the revised Water Unavailability Methodology for the Delta Watershed, together with consideration of water supply forecasts from the California Nevada River Forecast Center. The imposition or suspension of water right curtailments is being assessed by the State Water Board on a weekly basis.

Federal Coordination

- Valley Water participated in the fall Association of California Water Agencies (ACWA) conference and met with Reclamation and other water agencies to discuss the 2022 water outlook and drought coordination.
- Valley Water will meet again with Reclamation in mid-January at the Mid-Pacific Water Users’ Conference to continue its regular check-ins and coordination with the agency.

Staffing and Resources

- Drought emergency expenses are expenditures supplemental to the regular budget that would have been adopted had there been no drought. The only expenses for drought emergency costs included in the FY 2021-22 Adopted Budget are \$20 million for supplemental water and an additional \$3.3 million for water banking expenses to bring approximately 32,000 acre-feet of water banked at Semitropic Water Storage District into the county. Budget adjustments will be brought to the Board for any additional expenses incurred during the year.
- Expenses through the month of November FY22 totaled approximately \$23.89 million spent or encumbered primarily for supplemental water tied to contracts executed in FY21, a relatively small draw of water from Semitropic Water Storage District in August, and labor expenses for staff time bringing together Valley Water’s drought response program.

- In December 2021, Valley Water authorized a Cooperative Purchase Agreement with WaterWise Consulting to take on the onsite field surveys for a number of our water conservation programs, including pre-inspections for the Landscape Rebate Program. Onboarding will begin in January and this contract is expected to help significantly reduce wait time for Landscape Rebate Program project approval. The contract will allow for shifting Valley Water intern hours away from onsite pre-inspections and toward customer service, reducing voicemail and email response times and increasing the rate of application processing.

Expanded Opportunities

Agricultural Water Use Baseline Study

Valley Water is conducting an Agricultural Water Use Baseline Study expected to be completed in 2022. The study aims to better understand current agricultural water use practices and identify opportunities to expand water conservation programs offered to the agricultural community.

- The University of California - Merced team (UCM) performing the study has continued to make progress in using a remote-sensing based evaluation approach to determine patterns in crop distribution and irrigation technology verification.
- UCM has completed gathering spatial datasets and ground-truthing spatial data by driving by farms throughout Santa Clara County.
- Next steps include analyzing the spatial datasets and developing recommendations.
- In January 2022, Valley Water and UCM will provide a study update to the Water Conservation and Demand Management Committee and the Agricultural Water Advisory Committee.

Purified Water Project

The Purified Water Project will replenish groundwater supplies with purified water and expand usage of recycled and purified water, a drought-resilient, locally-controlled water source.

- In December, the Board directed staff to finalize agreements and develop the Public-Private Partnership (P3) Request for Proposal for the Palo Alto Site while continuing discussions with the Cities of San José and Santa Clara for a potential future project to expand the Silicon Valley Advanced Water Purification Center.

Leak Assistance Program Pilot

Valley Water and the Bay Area Water Supply and Conservation Agency (BAWSCA) are conducting a pilot leak detection certification program for professionals. California Water Efficiency Partnership (CalWEP) is the contractor for this pilot.

- In December, Valley Water and the Bay Area Water Supply and Conservation Agency (BAWSCA) held the kick-off meeting to launch development of a pilot to create a leak detection certification program for professionals. The first phase of the pilot will include research and focus groups to determine general interest in the training program, identify motivators and barriers to participation, and identify gaps related to leak detection and repair in existing professional training programs. California Water Efficiency Partnership (CalWEP) is the contractor for this pilot.

Flood-Managed Aquifer Recharge (Flood-MAR) Study

Valley Water is collaborating with a team of water resources researchers from the University of California system (referred to as UC Water) to complete a reconnaissance study for Flood-MAR implementation in Santa Clara County. The study aims to develop a GIS-based tool to identify potential sites for Flood-MAR projects in Santa Clara County and to evaluate institutional/regulatory requirements for implementing Flood-MAR projects.

- Valley Water completed the first year of work with the UC Water team in December 2021.
- UC Water has compiled and processed all needed spatial datasets related to soils, groundwater, land use, and hydrology.
- UC Water held three workshops with Valley Water staff to better understand how Valley Water can implement Flood-MAR.
- Continued work over 2022 includes detailed evaluations of institutional needs and potential participation incentives for Flood-MAR implementation projects in Santa Clara County and the completion of the GIS-based tool, including the identification of potential pilot site locations.
- Valley Water and UC Water will provide a Flood-MAR project update to the Water Conservation and Demand Management Committee and the Agricultural Water Advisory Committee in spring 2022.