Bay Area Water Supply & Conservation Agency

155 Bovet Road, Suite 650
San Mateo, California 94402
(650) 349-3000 tel. (650) 349-8395 fax

MEMORANDUM

TO:	**BAWSCA Board of Directors**
FROM:	**Nicole Sandkulla, CEO/General Manager**
DATE:	**August 9, 2024**
SUBJECT:	**Chief Executive Officer/General Manager's Letter**

California Data Collaborative (CaDC) Workshop:

On July 25, 2024, two BAWSCA staff members presented at a California Data Collaborative (CaDC) workshop held at Alameda County Water District's Fremont office. This was a hybrid workshop that included both an in-person and remote audience.

Tom Francis, BAWSCA Water Resources Manager, highlighted the work that BAWSCA is doing to document all of the actions taken in the region during the recent drought, collating that data, and using Advanced Metering Infrastructure (AMI) data to dive into the impact of demand management interventions.

Negin Ashoori, BAWSCA Senior Water Resources Engineer, provided an overview of BAWSCA's history of evolving demand forecasting models and the challenges of predicting the future when water demand behaviors keep changing. She detailed how BAWSCA's latest and planned approaches link econometric models of population, weather, and passive conservation with engineering models of active conservation measures.

The workshop was recorded and can be streamed from this link:
https://www.youtube.com/watch?v=Jgu8UOl8kjE

Water Management Charge:

At its meeting on July 18, 2024, the Board of Directors approved the staff recommendation to fund the development of the Long-Term Reliable Water Supply Strategy 2050 (Strategy 2050) by means of the Water Management Charge as authorized in Section 3.06.A of the 2021 Amended and Restated Water Supply Agreement. The approved budget of $2,447,000 to develop Strategy 2050 would need to be collected by SFPUC via the Water Management Charge over 18 months starting with bills issued in September 2024.

The Correspondence Packet includes a copy of CEO Sandkulla's letter to SFPUC General Manager Dennis Herrera notifying him of the Board action and initiating the collection process of the Water Management Charge. BAWSCA has begun the necessary coordination with SFPUC on the administrative matters involved in billing, collecting, and remitting WMC revenue. Consistent with the adopted work plan, development of Strategy 2050 will commence in January 2025 and the work will continue through January 2027.

ACWA Webinar on State Water Use Efficiency*:*

The Association of California Water Agencies (ACWA), in partnership with the California Water Efficiency Partnership (CalWEP) and League of California Cities, will hold a webinar on August 20th from 1pm to 2pm on the recently adopted long-term water use efficiency standards, commonly referred to as "Making Water Conservation a California Way of Life." This webinar is directed towards general managers, city managers, executive staff, and elected officials to enable these officials to better understand the new regulatory landscape that water supplies must comply with. As has been discussed with the board and member agencies, for example, many agencies will need to increase conservation program staffing and budgets to meet the new requirements. Elected officials will be critical for ensuring the appropriate resources are allocated to achieve and maintain compliance.

More information about the webinar and registration can be found at: https://www.acwa.com/events/aug20webinar/.

BAWSCA is an ACWA member and as a Board Member, you should be able to register under BAWSCA. Please contact Lourdes Enriquez at lenriquez@bawsca.org for BAWSCA's login credentials. Membership with the League of California Cities may offer free or discounted registration as well. A recording of the webinar will be provided to each registrant the day after the webinar.

BAWSCA, in partnership with Valley Water, is developing resources to help member agency staff with understanding and mapping out a compliance pathway for the new regulations.

Tier 2 Plan Update and Minimum Purchase Quantity Amendment Proposal:

BAWSCA and the lead negotiators continue to make progress on the Tier 2 Plan update and a potential amendment to the minimum purchase requirements in the Water Supply Agreement between San Francisco and its Wholesale Customers. BAWSCA staff and the Tier 2 technical consultants are doing a comprehensive QA/QC review and finalizing the Excel-based model that will run the agreed upon calculations. The legal team is developing adoption materials for the agencies to bring to the respective governing bodies for approval. Meanwhile, BAWSCA continues to support the minimum purchase agencies' efforts to find agreement on the proposed amendment. This includes facilitating group discussions and participating in one-on-one meetings with other agencies to help answer questions.

The objective is to secure agreement from all member agencies at the staff level by the end of September or early October.

CEO/General Manager Recruitment Update:

The recruitment process for BAWSCA's new CEO/General Manager is ongoing with an August 13, 2024 application deadline. The recruitment brochure can be found at https://bawsca.org/about/jobs/positions.

Although the window for new applicants is still open, the recruiter does report some potentially promising prospects. The Ad Hoc Committee is working on other preparations to maintain the currently anticipated schedule of candidate interviews in late August/early September and making a candidate recommendation for the Board's consideration at its September 19, 2024 meeting.

August 2024 Correspondence Packet

BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD OF DIRECTORS MEETING

August 9, 2024

Correspondence and media coverage of interest between July 26, 2024 and August 5, 2024

Correspondence

From: Info@losvaquerosjpa.com
To: Stakeholders
Date: July 31, 2024
Subject: Los Vaqueros Reservoir Joint Powers Authority Update

From: Kali Krishnan, Highland, Ca.
To: BAWSCA Board of Directors
Date: July 31, 2024
Subject: Restore Remote Public Comment at BAWSCA

From: Nicole Sandkulla, BAWSCA CEO/General Manager
To: Dennis Herrera, SFPUC General Manager
Date: July 19, 2024
Subject: Water Management Charge

Press Release

From: Bureau of Reclamation
Date: August 5, 2024
Subject: Biden-Harris Administration Delivers $105 Million from Investing in America Agenda for Water Conservation and Efficiency Projects

Water Supply Conditions:

Date: July 31, 2024
Source: San Francisco Chronicle
Article: California reservoir levels could drop much more than expected in the future, state report finds

Date: July 30, 2024
Source: LA Times
Article: The American West's last quarter-century ranks as the driest in 1,200 years, research shows

Water Management:

Date: July 29, 2024
Source: Globe Newswire
Article: Alliance for Water Efficiency Study Shows California Water Service's Conservation Efforts Save Customers Money

Date: July 22, 2024
Source: LA Times
Article: California's water usage is down 9% and other takeaways from The Times' updated Water tracker

August 2024 Correspondence Packet

Water Infrastructure:

Date: August 5, 2024
Source: Public Policy Institute of California
Article: How Have California's Water Issues Changes in the Past Thirty Years?

Date: August 1, 2024
Source: Courthouse News Service
Article: California must improve plans to address climate change impacts, state officials say

Date: July 31, 2024
Source: LA Times
Article: State Water Project supplies could fall up to 23% within 20 years due to climate change

Date: July 23, 2024
Source: Mercury News
Article: Desalination plant proposed for San Francisco Bay

Water Policy:

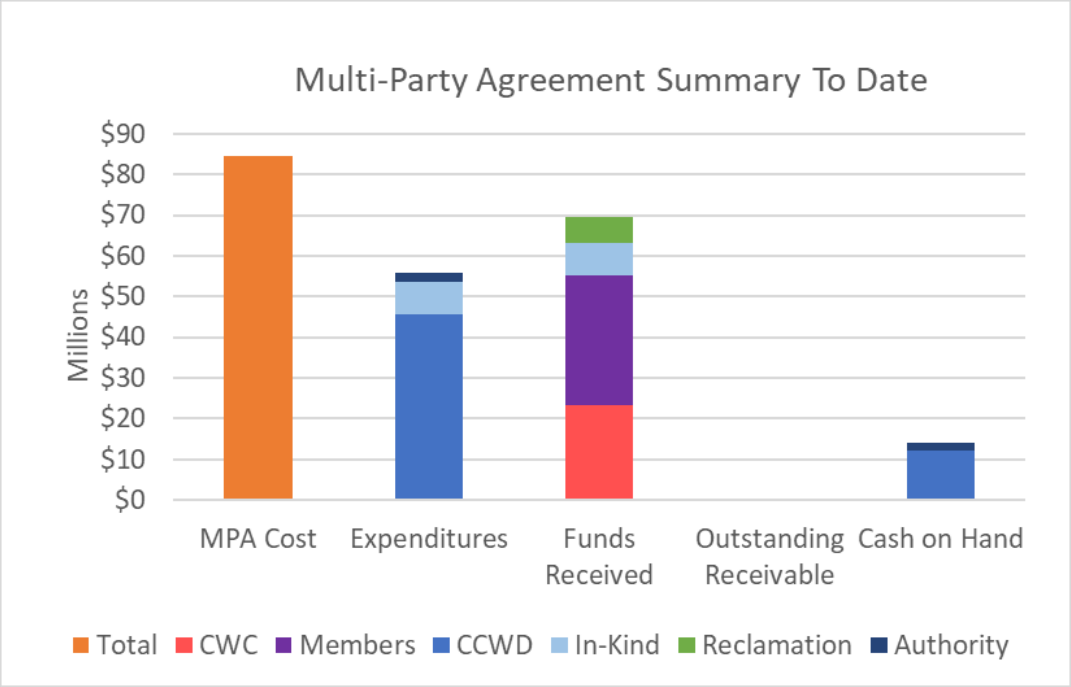
Date: July 30, 2024
Source: Valley Ag Voice
Article: State Water Board Adopts Permanent Water Restrictions

July 31, 2024

Los Vaqueros Reservoir Joint Powers Authority Update

UPDATE ON MULTIPARTY COST SHARE AGREEMENT

The following chart provides an overview of the MPA expenditures through June 30, 2024, as well as in-kind services, funds received, outstanding receivables, and cash on hand.



JULY BOARD OF DIRECTORS MEETING RECAP

On July 10, the JPA Board of Directors met in person at Zone 7 Water Agency. Discussion items included an outline of the proposed process for negotiating the Contra Costa Water District (CCWD) Facilities Use Agreement. The Board also received program management updates, including budget, schedule, agreements, design, and permitting; committee meeting reports;

and updates on significant state/federal legislation. The next JPA Board Meeting is scheduled for August 14 at Zone 7 Water Agency. In accordance with the Brown Act, the meeting agenda packet will be posted on the JPA website in advance of the meeting.

UPDATE ON SENATE BILL 867: SAFE DRINKING WATER, WILDFIRE PREVENTION, DROUGHT PREPAREDNESS, AND CLEAN AIR BOND ACT OF 2024 – CLIMATE RESILIENCE BOND

Senate Bill 867 (Allen, D-Santa Monica) was passed by both the Assembly and Senate and approved by the Governor on July 3, meeting the ballot deadline for the November 5 General Election. This $10 billion version of the bond was a compromise of earlier proposals, which both exceeded $15 billion. The bond contains eight chapters, with investments in programs and projects seeking to address California's climate crisis. This includes the proposed $75 million for the California Water Commission's (CWC) Water Storage Investment Program (WSIP), which is of particular interest to the JPA.

In a special meeting on July 1, the Association of California Water Agencies' (ACWA) State Legislative Committee took a neutral position on SB 867. Although the bond bill allocates $2.91 billion for nine out of the ten water-related categories that ACWA lobbied for, this amount represents less than one-third of the total bond, and funding levels are notably low for some fundamental water management categories.

Below is a breakdown of the proposed funding for the ten ACWA-recommended categories:

- Flood Protection/Stormwater: $660 million
- Drinking Water/Water Quality: $610 million
- Dam Safety: $480 million
- Recycling and Brackish Water Desalination: $448.75 million
- Groundwater: $386.25 million
- Regional Watershed Resilience: $100 million
- Regional Water Conveyance: $75 million
- Surface Water Storage: $75 million
- Water Use Efficiency: $75 million
- State Water Project (public benefits): $0

ENGINEERING UPDATE

Consistent with the JPA's Capital Preservation Strategy, design for Pumping Plant 1 was placed on hold after progressing to 90% complete, and design work for the Transfer-Bethany Pipeline was placed on hold at 30% complete. Right-of-way identification and acquisition activities continue on the alignment for the Transfer-Bethany Pipeline. Facility design activities will resume pending receipt of funding from the California Water Commission.

Negotiations to develop the CCWD Facilities Use Agreement are scheduled to begin in the month of August.

UPCOMING MEETINGS

DATE CORRECTION: **August 14 - 9:30 a.m.** JPA Board Meeting (Zone 7 Water Agency)

August 15 - 10 a.m.
JPA Operations & Engineering Committee Meeting (Virtual)

August 22 - 1 p.m.
JPA Finance Committee Meeting (Virtual)

August 28 - 10 a.m.
JPA Communications & Outreach Committee Meeting (Virtual)

ADDITIONAL PROJECT INFORMATION

losvaquerosjpa.com

ccwater.com/lvstudies

From: Kali Krishnan (kalimaria3@gmail.com) Sent You a Personal Message
To: bawscaboardofdirectors
Subject: Restore Remote Public Comment at BAWSCA
Date: Wednesday, July 31, 2024 6:18:04 AM

Dear BAWSCA Board of Directors,

Dear Board Members,

The removal of remote participation in BAWSCA Board meetings has reduced the transparency of the agency and has excluded the voices of the elderly, working-class, and caregiving community members from sharing their vital perspectives on the actions BAWSCA takes.

Remote participation became the new normal during the pandemic and remains in place in the majority of California cities. BAWSCA has made great progress by returning livestreams of Board meetings and the Agency must continue by implementing remote public comment services. As BAWSCA considers continuing its anti-environmental lawsuit against the State Water Board and chooses to support environmentally harmful voluntary agreements (VAs), the Board must remain transparent and ensure the voices of marginalized communities are heard at public meetings.

The Board must restore remote participation, including remote public comment. Thank you for recognizing the impact that remote participation has on increasing the accessibility and transparency of BAWSCA.

Sincerely,

Sincerely,

Kali Krishnan
28825 Lemon St
Highland, CA, CA 92346
kalimaria3@gmail.com
(909) 845-0159

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BAWSCA
Bay Area Water Supply & Conservation Agency

July 19, 2024

Via email to djherrera@sfwater.org

Mr. Dennis Herrera
General Manager
San Francisco Public Utilities Commission
525 Golden Gate Avenue, 13th Floor
San Francisco, CA 94102

Subject: Water Management Charge

Dear Mr. Herrara,

At its meeting on July 18, 2024, the BAWSCA Board of Directors approved the staff recommendation to fund the development of the Long-Term Reliable Water Supply Strategy 2050 (Strategy 2050) by means of the Water Management Charge authorized in Section 3.06.A of the 2021 Amended and Restated Water Supply Agreement.

The purpose of this letter is to formally request the San Francisco Public Utilities Commission (SFPUC) to include, as a separate line item on water bills sent to Wholesale Customers, a Water Management Charge in the amount and for a time-period described below.

The BAWSCA Board approved a budget of $2,447,000 intended to fund the development of Strategy 2050. The work will commence in January 2025 and will continue through January 2027. This amount will need to be collected over 18 months, starting with bills issued in September. The Board also decided that the cost of the development of Strategy 2050, to be funded through the Water Management Charge, should be allocated among the Wholesale Customers in proportion to their water purchases from SFPUC during FY 2000-01.

The attached table shows the amount of the Water Management Charge to be included in each Wholesale Customer's monthly water bill as its proportional share of Strategy 2050 costs.

Ms. Kastama has been helpful in starting the preparations to implement collection of the Water Management Charge in anticipation of the Board's action. Ms. Kastama has indicated that the SFPUC water billing program will be tested in August to ensure that it is capable of including the Water Management Charge once the SFPUC has received a formal request from BAWSCA. Ms. Kastama has indicated that she is confident that the system can accommodate our request.

I have asked Negin Ashoori to take the lead role in coordinating with SFPUC on the administrative matters involved in billing, collecting and remitting Water management Charge revenue. She will be in touch with Ms. Kastama shortly. Naturally, if you have any questions about this letter, or if any concerns arise while the Water Management Charge is being implemented, please let me know directly.

Thank you for your continued cooperation.

Sincerely,

Nicole M. Sandkulla,
Chief Executive Officer / General Manager

cc: N. Hom, SFPUC Chief Financial Officer/Asst. GM, Business Services
S. Richie, SFPUC Asst. GM, Water Enterprise
A. Kastama, SFPUC, BAWSCA Liaison
M. Frieberg, SFPUC Rates Manager
BAWSCA Water Management Representatives
A. Schutte, Hanson Bridgett

Table 1: Application and Allocation of Water Management Charge for Development of Strategy 2050

Project: Long Term Reliable Water Supply Strategy 2050
Total Cost ($M): $2.447
Collection Time Period: Sep. 2024 – Feb. 2026 (18 months)

Derivation of Monthly Charges for Each Agency

Agency	Actual FY 2000-01 SFPUC Purchases		Water Management Charge Proportionate to Usage	
	Ccf/Yr.	Percentage	Total Agency Share	Dollars/Month
	A	B	C	D
Alameda CWD	5,733,920	6.7%	$164,441	$9,136
Brisbane	178,451	0.2%	$5,118	$284
Guadalupe Valley ID	222,972	0.3%	$6,395	$355
Burlingame	2,373,507	2.8%	$68,069	$3,782
Cal Water-Bear Gulch	5,833,013	6.8%	$167,283	$9,294
Cal Water-Mid Peninsula	8,499,018	10.0%	$243,741	$13,541
Cal Water-SSF	3,775,630	4.4%	$108,280	$6,016
Coastside	755,636	0.9%	$21,671	$1,204
Daly City	2,215,685	2.6%	$63,543	$3,530
East Palo Alto	1,045,526	1.2%	$29,984	$1,666
Estero	2,873,777	3.4%	$82,416	$4,579
Hayward	8,959,450	10.5%	$256,945	$14,275
Hillsborough	1,861,166	2.2%	$53,376	$2,965
Menlo Park	1,684,982	2.0%	$48,323	$2,685
Mid-Peninsula	1,747,989	2.0%	$50,130	$2,785
Millbrae	1,339,215	1.6%	$38,407	$2,134
Milpitas	3,444,476	4.0%	$98,783	$5,488
Mountain View	5,423,871	6.4%	$155,550	$8,642
North Coast	1,676,847	2.0%	$48,090	$2,672
Palo Alto	6,730,016	7.9%	$193,008	$10,723
Purissima Hills	1,066,141	1.2%	$30,576	$1,699
Redwood City	5,749,916	6.7%	$164,900	$9,161
San Bruno	1,192,026	1.4%	$34,186	$1,899
San Jose	2,349,220	2.8%	$67,373	$3,743
Santa Clara	1,997,584	2.3%	$57,288	$3,183
Stanford	1,315,366	1.5%	$37,723	$2,096
Sunnyvale	4,785,841	5.6%	$137,252	$7,625
Westborough	493,441	0.6%	$14,151	$786
Total	**85,324,682**	**100%**	**$2,447,000**	**$135,944**

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Bureau of Reclamation
For Release: Aug 5, 2024

Media Contact: communications@usbr.gov

Biden-Harris Administration Delivers $105 Million from Investing in America Agenda for Water Conservation and Efficiency Projects

WASHINGTON — The Department of the Interior today announced a nearly $105 million investment as part of the President's Investing in America agenda for 67 water conservation and efficiency projects that will enhance drought resilience across the nation. The investment comes from the Bipartisan Infrastructure Law and annual appropriations.


Meter installed to measure water use in Texas.

President Biden's Investing in America agenda represents the largest investment in climate resilience in the nation's history and provides much-needed resources to enhance Western communities' resilience to drought and the effects of climate change. Through the Bipartisan Infrastructure Law, the Bureau of Reclamation is investing a total of $8.3 billion over five years for water infrastructure projects, including rural water, water storage, conservation and conveyance, nature-based solutions, dam safety, water purification and reuse, and desalination. Since the President signed the Bipartisan Infrastructure Law in November 2021, Reclamation has announced $4.2 billion for 575 projects to date.

"Access to clean, reliable water is essential for feeding families, growing crops, sustaining wildlife, and powering agricultural businesses," said Acting Deputy Secretary Laura Daniel-Davis. "Enabled by the President's Investing in America agenda, the Biden-Harris administration is bringing historic resources to bear to ensure the stability and sustainability of the Colorado River Basin in the wake of severe drought and to safeguard communities across the West, by strengthening climate resilience and facilitating water conservation."

"As we work to counter the impacts of drought and climate change, we must embrace opportunities to increase water and energy efficiency wherever possible," said Reclamation Commissioner Camille Calimlim Touton. "The President's Investing in America agenda provides the resources to expand these conservation efforts that include canal lining, meter installation, conservation incentives, and gate automation."

Reclamation anticipates that the projects, located in Arizona, California, Colorado, Idaho, Kansas, Montana, Nebraska, Nevada, Texas, Utah and Wyoming, will save more than 111,000 acre-feet of water annually. That's enough water to supply approximately 447,000 people for a year. This builds upon $140 million announced for water and energy efficiency projects last year. The complete list of projects can be found on Reclamation's website.

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California reservoir levels could drop much more than expected in the future, state report finds

San Francisco Chronicle | July 31, 2024 | Kurtis Alexander,

Low water levels are visible in June 2021 at Lake Oroville. Future water supplies to Lake Oroville and other state-run reservoirs are expected to be significantly diminished by climate change. Carlos Avila Gonzalez/The Chronicle

California's state-run reservoirs, which include giant Lake Oroville, are on track to collect and store up to 23% less water in two decades because of climate change, according to a report released Wednesday by state water officials.

Such a dip in supplies would have a harrowing effect on cities and towns served by the State Water Project, which collectively provides at least some water to 27 million Californians, including many in the Bay Area. Numerous communities would be forced to ration supplies while scrambling to find new sources of water.

The projections, made by the Department of Water Resources and reviewed by independent scientists, are even bleaker than estimates in the prior Water Delivery Report two years ago. The projected decline then was 9% in 20 years, compared with the new estimate of 13% to 23% less water in 2043.

State officials blame the increasingly severe impacts of climate change — and better modeling — for the diminished water outlook, notably higher temperatures and longer dry periods. They say California must expedite preparations for its drier future, even if the actions are expensive and controversial.

“Water is fundamental to the state and to do all the things that are important to us,” State Water Project Deputy Director John Yarbrough told the Chronicle. “This (new) report really shows there’s a problem if we do nothing.”

Water agencies that rely on the State Water Project for at least some of their supplies include the Alameda County Water District, Santa Clara Valley Water District, Tri-Valley’s Zone 7 Water Agency and Napa County Flood Control and Water Conservation District. The city of San Francisco and its wholesale customers as well as the East Bay Municipal Utility District do not receive state water, though their supplies face some of the same climate issues.

The State Water Project also provides water for irrigation on 750,000 acres of farmland.

The State Water Project consists of several big reservoirs that send water through hundreds of miles of canals and aqueducts from wetter regions of the state to drier areas. The system was launched in the 1960s, sharing some of the same infrastructure as the federal government’s Central Valley Project, and has long been celebrated as the nation’s most productive state waterworks.

With the changing climate, however, state reservoirs have not filled as consistently as in the past, a trend officials expect to worsen. Specifically, mountain snow that historically melted through summer and kept reservoirs full after winter rains has dwindled. Also, while total precipitation may not change much in the future, rain is coming in shorter, more intense bouts, making it harder to capture the water given the limited reservoir capacity.

“We need to continue to adapt and invest in the State Water Project, so that we can add flexibility and resilience for 21st century conditions,” Yarbrough said.

Under Gov. Gavin Newsom, the state has pursued an “all-of-the-above approach” to boosting water supplies. Some of the preferred projects are not only costly, meaning they’d likely raise household water rates, but unpopular, often because they involve taking large amounts of water from rivers and creeks where fish and wildlife are already struggling with low flows.

The most controversial proposal is the planned 45-mile tunnel beneath the Sacramento-San Joaquin River Delta. The $20.1 billion project seeks to safeguard the state’s water shipments through the delta, which have been reduced in recent years because of ecological and infrastructure issues in the region. Delta communities view the tunnel as a water grab.

There are also plans to build what would be California’s largest new reservoir in decades. The proposed $4.5 billion Sites Reservoir, about 70 miles north of Sacramento, would capture water

from the Sacramento River when flows are high. It is planned as an “off-stream” facility, meaning it wouldn’t store water on the river and require an environmentally destructive dam, though critics say there isn’t enough water in the river to take.

Both projects are cited in the new report as essential for dealing with California’s water future. Desalination and groundwater storage are among other proposed actions.

“The analysis released today underscores the need to modernize and upgrade our aging infrastructure,” said Karla Nemeth, director of the Department of Water Resources, in a statement.

# # #

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The American West's last quarter-century ranks as the driest in 1,200 years, research shows

LA Times | July 30, 2024 | Ian James

Fish carcasses lie on dried mud on the shore of Lake Mead in 2022. The reservoir near Las Vegas is the largest on the Colorado River and stores water for Nevada, Arizona, California and Mexico. (Gina Ferazzi/Los Angeles Times)

Three years ago, climate researchers shocked drought-weary Californians when they revealed that the American West was experiencing its driest 22-year period in 1,200 years, and that this severe megadrought was being intensified by global warming.

Now, a UCLA climate scientist has reexamined the data and found that, even after two wet winters, the last 25 years are still likely the driest quarter-century since the year 800.

”The dryness still wins out over the wetness, big time,” said UCLA professor Park Williams.

The latest climate data show that the years since 2000 in western North America — from Montana to California to northern Mexico — have been slightly drier on average than a similar megadrought in the late 1500s.

Williams shared his findings with the Los Angeles Times, providing an update to his widely cited 2022 study, which he coauthored with scientists at Columbia University’s Lamont-Doherty Earth Observatory.

The new findings reveal that even the unusually wet conditions that drenched the West since the start of 2023 pale in comparison to the long stretch of mostly dry years over the previous 23 years.

And that dryness hasn't been driven by natural cycles alone. Williams and his colleagues have estimated that a significant portion of the drought's severity — roughly 40% — is attributable to warming driven by the burning of fossil fuels and rising levels of greenhouse gases. The warming that has occurred in the region, an increase of more than 2.5 degrees Fahrenheit since recordkeeping began more than a century ago, has intensified the dry conditions, making the latest megadrought significantly more severe than it would be without climate change.

But are we still in a megadrought? How will we know when the megadrought is finally over?

Williams said those questions will take some time to answer, and the conclusions will only become clear in hindsight.

"Based on the definition of megadrought that we've been using, which involves looking at the past 10 years to see if dry or wet conditions prevailed, we can only see the termination of a megadrought in hindsight," Williams said. "If the next few years are on average wet, that will mark the end of the megadrought. If they're dry, the megadrought will continue."

A boat motors across Lake Powell on the Arizona-Utah border in 2021. The reservoir, the second-largest on the Colorado River, has declined dramatically over the last 25 years. (Luis Sinco / Los Angeles Times)

Williams and his colleagues track the severity of drought using a 10-year running average of summer soil moisture throughout western North America.

They compare this century's drought and other megadroughts using ancient records captured in the growth rings of trees. Wood cores extracted from thousands of trees provide data for about 1,600 sites across the region, enabling scientists to reconstruct the soil moisture centuries ago.

A comparable megadrought occurred from 1571 to 1593, ending after 23 years. Williams said his latest review of data through June shows that the last 25 years, when compared with the late 1500s, have been "ever so slightly drier."

"It's important to recognize that even the megadroughts in our tree-ring reconstruction had extremely wet years within them, wet years like 2023," Williams said. "Megadroughts can take brief breaks."

Whether this megadrought continues or eases will become clearer over the next year or two, he said.

If wetter-than-average conditions continue, he said, it might be the case that the megadrought already ended after 23 years in 2023. On the other hand, it might be that the rest of 2024 turns out to be drier than average and is followed by more dry years, in which case the megadrought would still be underway.

A visitor surveys the Colorado River and Canyonlands National Park at Dead Horse Point near Moab, Utah. (Luis Sinco/Los Angeles Times)

Williams said his research shows that much of the drought's severity has been driven by the West's extreme natural variability, which he likens to a yo-yo going from wet to dry. But these variations are now superimposed on a drying trend with climate change, he said, a "shifting baseline" that is making droughts more severe and longer lasting.

Williams said it's very likely the megadrought since 2000 wouldn't be on par with the long droughts of centuries ago if it weren't for the warmer temperatures being unleashed by human-caused climate change.

"We don't know whether or not the next 10 years is going to be a good luck sequence or a bad luck sequence," Williams said. "But we do know, based on climate modeling and math and logic, that as long as the atmosphere continues to get warmer, then the chances that the next 10 years are drier than average will be higher than they were in the last century."

Scientists and policy experts widely agree that adapting to aridification driven by climate change in the western U.S. will require major changes in how limited water supplies are managed for farms, cities and the environment.

"Regardless of what happens in the next few years, which will be dictated mostly by the randomness of weather, as the atmosphere continues to warm we should expect it to continue to degrade our water supply," Williams said. "A warmer atmosphere is a thirstier atmosphere, and without a compensating increase in precipitation, which has not occurred, humans and ecosystems will be left with less water."

That will require a continued focus on curbing unsustainable overuse of water from rivers and aquifers, he said. "Even during periods of good luck and wetness, we cannot forget that the long-term average is drifting towards being drier."

Williams said the data suggest that by 2100, the region will most likely have experienced one or two additional megadroughts, which could be even more severe.

And yet, looking to the future, the biggest source of uncertainty in the climate projections is how people will respond in addressing climate change.

"We, the burners of fossil fuels, actually have a huge ability to control the climate over the rest of this century. The climate of the 2090s is very sensitive to what we do with fossil fuels in the next 20 to 30 years," Williams said. "We need to reduce carbon emissions in order to stabilize the climate."

# # #

Alliance for Water Efficiency Study Shows California Water Service's Conservation Efforts Save Customers Money

Globe Newswire | July 29, 2024

SAN JOSE, Calif., July 29, 2024 (GLOBE NEWSWIRE) -- Water conservation efforts have reduced California Water Service (Cal Water) customers' bills by as much as 20.5 percent over the last 15 years compared to what they would have been without those efforts, according to a new study released by the Alliance for Water Efficiency (AWE). Cal Water's water efficiency and conservation measures during that time decreased operating costs, which in turn saved customers money.

Water conservation has been shown to be the lowest-cost source of supply, because when less water is used, some costly investments required to produce additional water supplies can be deferred and potentially avoided. This study, "The Economic Value of Efficiency for California Water Service: Lower Water Bills," details the impact of Cal Water's water conservation efforts on affordability.

It can be difficult to understand rate increases when system-wide water use has gone down, often leading customers to blame water conservation and efficiency for higher rates, according to AWE. The study shows, however, that rate changes would have been larger without water conservation and efficiency measures. Additionally, these conservation measures enabled the utility to realize environmental benefits, such as lower chemical use from less treatment required along with reduced energy consumption and subsequent greenhouse gas emissions.

"Our water conservation efforts have reduced our costs from what they would have been absent conservation throughout all our districts, giving us the ability to request smaller rate adjustments for our customers when costs rise and infrastructure investments need to be made," said Martin A. Kropelnicki, Cal Water Chairman and CEO. "Particularly as California begins implementing permanent long-term water-use reductions, it is critical that we leverage conservation practices that reduce costs and water usage."

Cal Water substantially increased its water conservation efforts beginning in 2009, including the adoption of tiered rate structures that send an intentional price signal to customers about the cost consequences of using more water. Implementing tiered water rates, universal metering, efficient plumbing standards, and long-term conservation programs have all helped lower Cal Water's operating costs in the short and long term, AWE found.

Without the reduction in water demand since 2008-2009, AWE estimates that bills in Cal Water's service areas for the 2010-2022 period would have been at least 1.2 to 20.5 percent higher, depending on the district. The money Cal Water spent on conservation programs was more than offset by lower water production costs, deferred capital spending, and other reduced costs.

Furthermore, the study shows that investing in water conservation directly benefits customers by helping to slow the increase in water service costs over time. Investments in water efficiency

are not only critical to provide a sustainable water supply, but also to help keep water service affordable.

# # #

About California Water Service

California Water Service provides high-quality, reliable water utility services to more than 2 million people statewide through 497,700 service connections. Cal Water's purpose is to enhance the quality of life for customers and communities. To do so, it invests responsibly in water and wastewater infrastructure, sustainability initiatives, and community well-being. The company's 1,100+ employees live by a set of strong core values and share a commitment to protecting the planet, care for people, and operating with the utmost integrity. The utility has been named one of "America's Most Responsible Companies" and "World's Most Trustworthy Companies" by Newsweek and a Great Place to Work®. More information is available at www.calwater.com.

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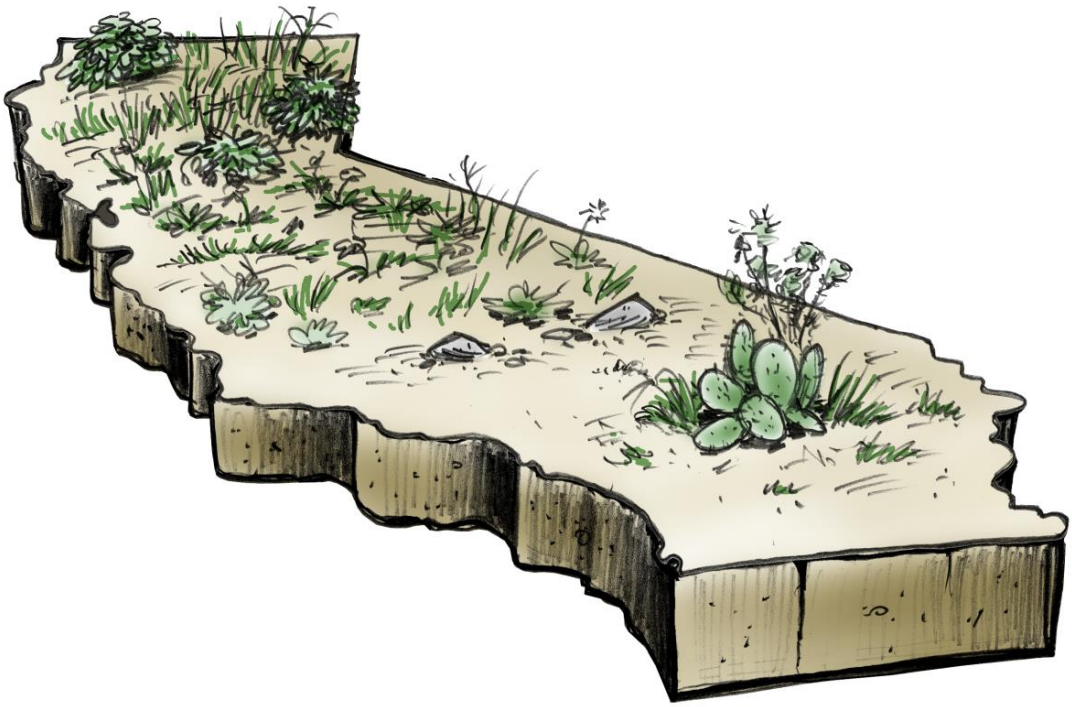
Californians' water usage is down 9% and other takeaways from The Times' updated water tracker

LA Times | July 22, 2024 | Sean Greene

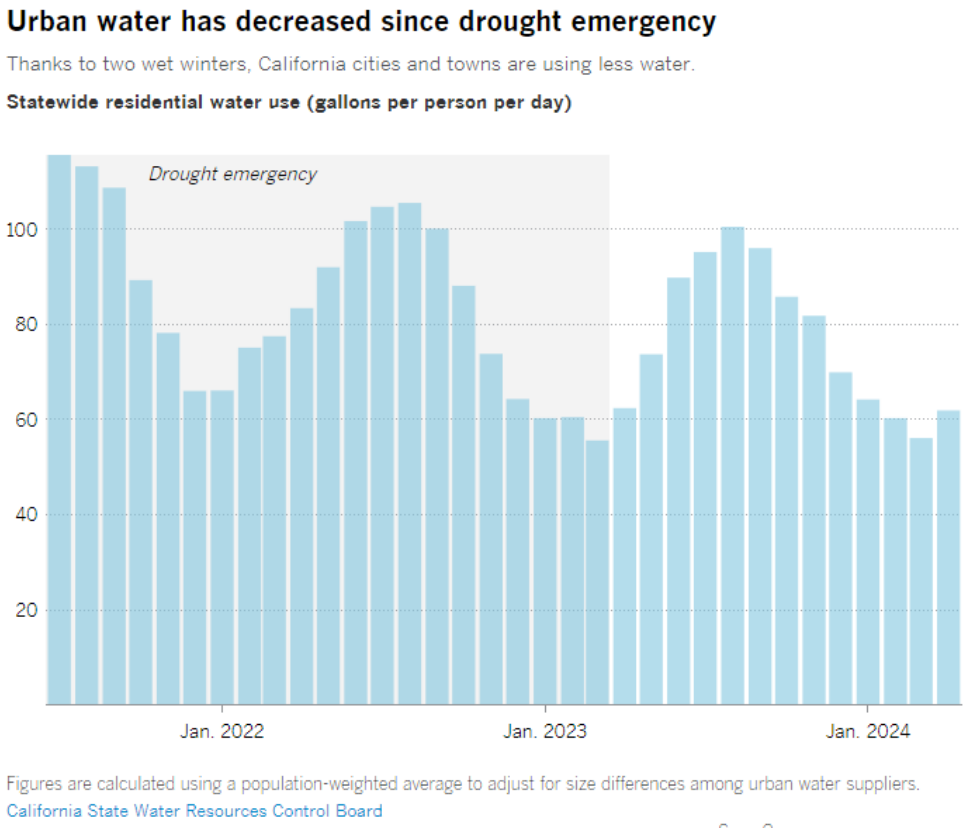


(Paul Duginski / Los Angeles Times)

California residents are using about 8 fewer gallons of water per day than they did during the last drought emergency, according to newly released state data.

Between April 2023 and last April, urban water users consumed an average of 77 gallons per person per day. That comes out to a 9% decrease since the drought emergency ended in March 2023. This period includes the effects of two consecutive wet winters, the first of which relieved the years-long historic drought that had gripped the western United States since 2021.

In July 2021, Gov. Gavin Newsom called for Californians to voluntarily reduce their water use by 15%, a move that would have brought statewide water use down to about 79 gallons per person per day. While residents fell short of the goal, they still cut back by about 7% — or 85 gallons per person per day.

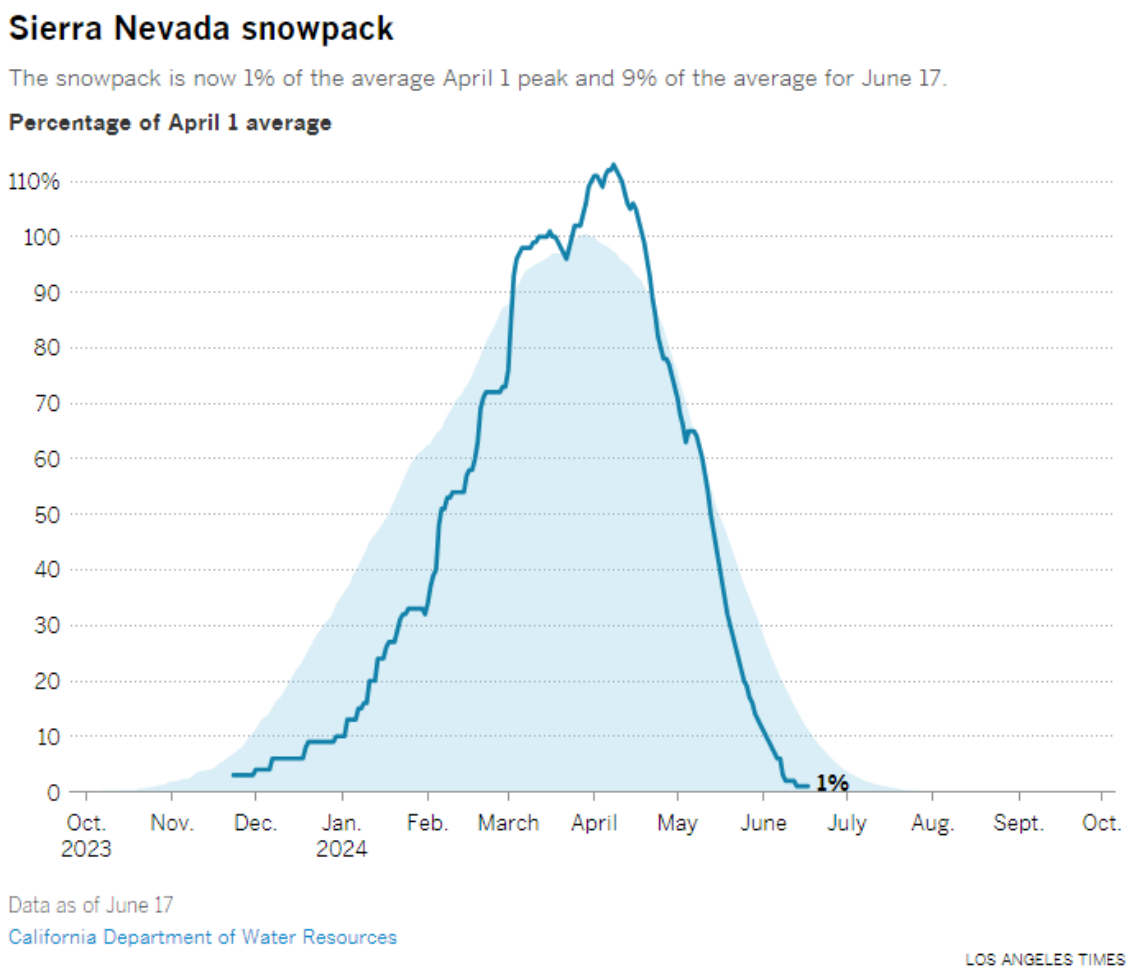


The State Water Resources Control Board tracks water use in California's cities and towns and makes the data available through an online tracking tool. Last month, the agency revived its monthly reporting of local water supplies and use for more than 400 urban suppliers.

This data will feed The Times' water supply tracker where readers can look up how much water is being used in their areas compared with their county and the state. These figures, which are released on a two-month lag, will be updated monthly, according to water board officials.

The state's relaunch of its water use dashboard coincides with the adoption of new permanent conservation rules for urban water suppliers. The Making Conservation a California Way of Life framework is designed to help the state save 500,000 acre-feet of water per year by 2040. That's enough to supply more than 1.4 million households per year. The rules are individualized to retail water utilities and would require some agencies to cut water usage by more than 30% within the next 16 years.

As record temperatures dry out the state and contribute to increased wildfire activity, The Times' water supply tracker will continue to provide regular updates on rainfall totals, reservoir levels and drought conditions. For now, we've removed a chart tracking the Sierra snowpack.



The snowpack is part of the state's natural water storage system. In early April, the snowpack reached a healthy peak before melting off through mid-June, leaving most of California's reservoirs above normal levels. The Times will resume snow coverage this winter.

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How Have California's Water Issues Changed in the Past Thirty Years?
Public Policy Institute of California | August 5, 2024

Back in 1994, Ace of Base and Boys II Men were chart-topping artists, "The Lion King" was the year's most popular movie…and the Public Policy Institute of California drew its first breath. A lot has changed in California since then, so we sat down with key PPIC Water Policy Center staff to discuss what's changed—and what hasn't—in the California water world since the year the White House launched its first webpage.

How did PPIC work on water issues in the beginning?

Ellen Hanak: PPIC was founded at the end of a drought that spanned 1987–92. That drought was really formative for California's cities. There was trauma.

Jeffrey Mount: We were months away from water rationing in 1991, which is a nightmare for anyone in the water business.

EH: My first projects for PPIC dealt with water trading, urban water use, and a looming growth and infrastructure crisis. Then Delta issues cropped up because Jeff had just written a very influential piece with a researcher at UC Berkeley about the fragility of the Delta levees, which were facing growing threats from sea level rise and earthquakes. Given the Delta's importance for California's water supply—some 25 million people and 3 million acres of farmland depend on water that comes through the Delta—this got a lot of attention.

JM: That 2005 paper really lit the fuse on a bomb by daylighting this major infrastructure problem. This work led to two PPIC-sponsored books on envisioning and comparing futures for the Sacramento–San Joaquin Delta.

EH: In those books, our recommendations on alternative means of conveying water through the Delta received the most attention. In 1982, California voters had rejected a proposal to build a peripheral canal around the Delta to reduce the vulnerability of Delta freshwater exports to seawater intrusion; the question of conveyance was untouchable for a long time after that. We made it okay to talk about alternative conveyance from the perspective of not just water supply, but also the future of the Delta's ecosystem. It turns out that the way California moves water through the Delta is pretty disruptive to native species that depend on this ecosystem.

Brian Gray: PPIC's analysis gave the topic of alternative conveyance credibility, and it put the issue back into public debate.

JM: It became part of our DNA, that we could say the unsayable. If anyone else brought it up, they had a dog in the fight, but we didn't.

EH: There was something for everybody to love and everybody to hate in our publications, and it kind of worked because of that. Going forward, that became our winning formula. When you

interview stakeholders now about our role in California water policy, they admit that they may not like what we're saying, but they recognize that we're not in one camp all the time. That allows them to hear what we have to say.

What big changes have occurred in California water in the last 30 years?

EH: Urban resilience has improved dramatically. We now have millions more people in the state, but we're using same amount of water in our cities and suburbs as in 1990. There's a lot more local infrastructure, and there are water-sharing arrangements. The urban sector has become much more sophisticated. This was largely a local-led revolution, but it was supported by billions of dollars of state cost-share money, because voters were very motivated to pass state bonds to help.

JM: The most transformative behavioral change is urban water use. But the most transformative legislation in the last 30 years is the Sustainable Groundwater Management Act (SGMA), which is leading to major changes in how we manage groundwater—an essential resource.

Also, for the last 25 years, all Californians have seen changes in their climate. It's here, it's happening now, and we're no longer trying to convince anybody that it's a problem. Now we're just arguing about how we're going to deal with it. That represents a major societal shift here in California.

BG: Another significant change is the development of water markets. Thirty years ago, there was widespread skepticism of water transfers. Today, both the agricultural and urban sectors acknowledge the benefits that water markets provide—such as moving water to areas of acute shortage during drought, smoothing some transition costs of SGMA implementation, facilitating groundwater banking, and diversifying long-term water supply portfolios.

What California water issues haven't changed in the last 30 years?

JM: We're still fighting! (Laughter.) Although that's not entirely true anymore. There's a growing, radical middle—the edges have the same arguments, but constructive engagement is happening in the middle.

BG: Salmon remain in peril, perhaps more so than ever before, despite all our regulatory, restoration, and planning efforts. We need to rethink our recovery and ecosystem management strategies because what we are doing is not working.

As PPIC embarks on its next 30 years, what's next for the Water Policy Center?

Letitia Grenier: Californians need to be thinking about how we can become more resilient to climate change across all water sectors. It's essential to take a look at the newest projections for future storms, heat, and drought that will deeply impact our water supply, flooding, forest headwaters, and freshwater ecosystems and figure out how much time is needed for planning.

In cases where it's going to take a lot of time to build new infrastructure, let's look ahead and integrate climate change timelines with decisions and funding. Our goal at the PPIC Water Policy Center is to help sectors be ready as change happens. There may be uncertainty about how extreme the change will be, but we can still be ready.

EH: That makes me think about one challenge we've written about a lot: how to improve the process when it comes to implementing things. The permitting and regulatory process around restoration or any major infrastructure investments—it's just too hard. Permitting should not take decades.

LG: We have ideas for how to improve permitting, with some proven successes. Programmatic permits across a large area, regulatory coordination, and watershed-scale planning can help. That's what's needed, but it's hard to do.

BG: I also think there's growing consensus on the need to adopt some form of real-time monitoring and reporting of water use. Without this, it will become increasingly difficult to enforce water rights priorities during droughts, protect transferred water from unlawful diversions, and ensure that water released for environmental uses remains instream to fulfill those purposes.

EH: When we were writing our 2011 book, Managing California's Water, we were trying to get a sense of the total volume of surface water rights in the state, and we got a pie chart showing more than ten times the amount of all surface and groundwater actually used each year—that's what the State Water Board had. There have definitely been improvements in both surface and groundwater use reporting since that time, but there are still important gaps. The data revolution still needs to happen.

JM: If you can't measure it, you can't manage it.

Final thoughts?

JM: I was so pleased with our myth-busting. "We need more dams!" "We're running out of water!" "Water is being wasted to the sea!" We'd explain why these statements were wrong. Water myths generally start with a kernel of truth, but they morph into silver bullet solutions that ignore the nuances and trade-offs of water management. We've done a good job over the years of doing those things and Letitia, I hope you keep taking on public myths and busting them.

# # #

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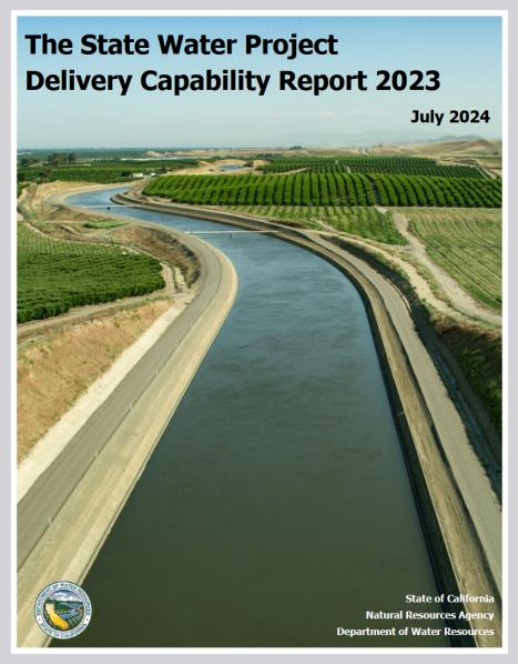
California must improve plans to address climate change impacts, state officials say
Courthouse News Service | August 1, 2024 | Natalie Hanson

Experts report that without further adaptation to prepare for worsening climate change impacts, California will see significant losses of available water and potentially devastating effects on watersheds.

California officials say that the state must better prepare for the impending impacts of climate change to avoid potentially devastating losses of water in coming years.

The state's Department of Water Resources on Wednesday released the 2023 State Water Project Delivery Capability Report, analyzing current and future expectations for California's water supply. Experts reported that the state's delivery capability and reliability could decrease by as much as 23% within 20 years due to changing flow patterns and extreme weather shifts. That's equivalent to about 496,000 acre-feet per year, enough to supply more than 1.7 million homes for one year.

"The analysis released today underscores the need to modernize and upgrade our aging infrastructure so we can capture water supplies when it's wet. Modernizing the State Water Project is critical to delivering on the human right to water in California," Karla Nemeth, Department of Water Resources director, said in a statement Wednesday.



Experts project that California's population, now just over 39 million, may boom to 43 million people by 2030. They say it's therefore imperative to prepare for water shortages as the Golden State will see increasingly extreme weather conditions. Periods of high flows that current infrastructure cannot properly capture will clash with long, severe dry periods, according to the report.

The State Water Project's service area comprises the world's eighth-largest economy, with more than eight million people living in disadvantaged communities. The report introduces two new approaches to analyze current climate change conditions, and officials recommend emphasizing projects to upgrade infrastructure and better prepare for climate change such as a new reservoir and desalination projects.

Under one of three presented climate change scenarios, the experts reported that if agencies continue to manage water in the same way as conditions become increasingly hot and dry, then the estimated average annual water delivery would measure 13% to 22% lower than under existing conditions.

"Users of this scenario should assume that current climate model simulations indicate that actual 2043 climate conditions would have about a 25% chance of being worse than the conditions represented in this scenario," the experts wrote. "Put another way, there is an approximately 25% chance that

planning (for) only this scenario would leave an agency under planned and potentially under-prepared for the actual climate conditions to which they need to operate."

The state emphasized the Sacramento-San Joaquin Delta and efforts to protect its fragile ecosystem while managing water exported from the converging rivers for agricultural and urban uses. The west San Joaquin Valley alone depends on the delta for about 75% of its irrigation supply to produce billions of dollars worth of food each year.

"The delta's importance to California's economy and natural heritage cannot be overstated," the experts wrote. "California would not be the same without that water — hundreds of billions of dollars of economic activity depend upon it."

Officials report that the Department of Water Resources, the U.S. Bureau of Reclamation, the Water Board and resource agencies are collaborating on new operating permits for the Central Valley Project and a water quality control plan update. In addition, delta water users will explore new ways to cut water use and improvement local habitats.

"Despite uncertainties in future regulations and climate conditions, the 2023 DCR unmistakably demonstrates substantial reductions in delivery capability and reliability if no or insufficient action is taken," Nemeth wrote. "Immediate action is imperative to address the impact of a warming climate, with the report indicating that these effects are already in motion."

Built in 1960, the state water project spans more than 700 miles and consists of canals, dams, reservoirs, pumping plants and power plants which provide water to 27 million Californians and 750,000 acres of farmland.

"The state water project was designed for the climate of the 20th century when our precipitation fell as snow more reliably between October and May and we could capture that water effectively for future use," the project's deputy director John Yarbrough said in a statement. "We need to continue to adapt and invest in the SWP, so that we can add flexibility and resilience for 21st century conditions and we can avoid these losses in reliability."

California became the first state to adopt urban water use efficiency targets with the enactment of the Water Conservation Act of 2009. In 2018, two new water conservation laws, Assembly Bill 1668 and Senate Bill 606, created a new conservation framework to establish new urban water use objectives. Building on the framework, Governor Gavin Newsom in April released an updated California Water Plan outlining 142 state actions like building new infrastructure to store and move water.

# # #

State Water Project supplies could fall up to 23% within 20 years due to climate change
LA Times | July 31, 2024 | Ian James

 The Newsom administration is projecting that California's State Water Project could lose up to 23% of its water delivering capacity within 20 years. Here, the California Aqueduct winds through desert shrub in Palmdale.(Myung J. Chun / Los Angeles Times)
By Ian James

Climate change threatens to dramatically shrink the amount of water California can deliver over the next 20 years and could reduce supplies available from the State Water Project by up to 23%, according to new projections released Wednesday by Gov. Gavin Newsom's administration.

The analysis by the California Department of Water Resources examined a range of climate change scenarios and projected that by 2043 the average amount of water transported through the massive network of reservoirs and canals to more than half the state's population could decline between 13% and 23%.

Such a loss in the State Water Project's water delivery capacity, if not addressed, could lead to major shortages for much of the state, including Southern California.

"The SWP was designed for the climate of the 20th century," said John Yarbrough, the project's deputy director. "It's going to need continued investment to get it in a place where it's really able to function with the hydrology of the future."

State officials analyzed how rising temperatures are likely to affect the existing water infrastructure without any adaptation measures. They said the expected losses in the system's capacity show a need to invest in projects intended to boost supplies, such as the state's plan to build the new Sites Reservoir and a water tunnel beneath the Sacramento-San Joaquin River Delta.

In addition to serving 27 million people, the State Water Project supplies roughly 750,000 acres of farmland.

According to the report, current infrastructure will be able to deliver less water in the coming years as rising temperatures bring more intense droughts, decreased snowpack, more extreme storms and more precipitation falling as rain rather than snow. Changes in the timing of runoff are also expected to create challenges. And sea level rise is likely to complicate water managers' efforts to manage salinity levels and meet water quality standards in the delta.

The estimates were included in a report that the state publishes every two years. The last update in 2021 projected a 9% decrease in the State Water Project's future water supplies because of climate change. The latest projections include a more detailed analysis of different climate scenarios.

Vehicles cross the Enterprise Bridge at Lake Oroville in February 2023. (Brian van der Brug / Los Angeles Times)

Newsom and other state officials have for years called for upgrading the state's water infrastructure to adapt to warming driven by the burning of fossil fuels and rising levels of greenhouse gases.

In 2022, Newsom presented a plan calling for California to prepare for an estimated 10% decrease in the state's water supply by 2040.

The State Water Project transports water across more than 700 miles through a series of reservoirs, aqueducts, pipelines and pumping plants from Northern California to Southern California.

The current infrastructure, which was built in the 1960s, includes massive pumps that draw water from the delta and send it flowing into the California Aqueduct. Water exports from the delta have decreased since 2008, partly because of changing regulatory requirements and protections for threatened fish species.

State officials said that there is considerable uncertainty in future regulatory requirements and climate conditions, but that the analysis shows a large reduction of the water supply is likely. The more severe scenario would bring average losses of 496,000 acre-feet of water a year, enough to supply more than 1.7 million homes.

Karla Nemeth, director of the Department of Water Resources, said the analysis "underscores the need to modernize and upgrade our aging infrastructure so we can capture water supplies when it's wet."

In a letter presenting the report, Nemeth said the latest review "unmistakably demonstrates substantial reductions" in the project's delivery capacity if no action is taken.

"Immediate action is imperative to address the impact of a warming climate," she wrote.

State officials have been taking steps to advance plans for the 45-mile water tunnel, which would create a second route to draw water from the Sacramento River into the aqueducts of the State Water Project.

In May, the Newsom administration announced that the cost of building the proposed tunnel is $20.1 billion, and that a state analysis concluded the projected benefits of the project would far outweigh the costs.

Opponents of the proposed Delta Conveyance Project have argued the state's analysis is flawed and underestimates the costs while overestimating the benefits.

Jeffrey Michael, a public policy professor at University of the Pacific's McGeorge School of Law, challenged the state's financial estimates in a recent report, saying the state omitted substantial costs. His analysis found that building the tunnel would be significantly more expensive than other water supply alternatives.

Environmental groups, Indigenous tribes, fishing organizations and local agencies have filed lawsuits seeking to block the project.

Conner Everts, a leader of the Environmental Water Caucus, said cost-effective solutions lie not in building big projects such as the tunnel or Sites Reservoir, but rather in promoting more conservation efforts and developing local water supplies to reduce reliance on water pumped from across the state.

“I think we need to focus on maximizing local water resources and further reducing demand,” Everts said. “It doesn’t make any sense to invest in the wrong place, invest a huge amount of money when there isn’t going to be water available.”

He pointed out that Californians have substantially reduced water use in cities in recent years. And researchers with the Pacific Institute, a water think tank, have estimated that California could reduce urban water use by more than 30% by investing in measures to use water more efficiently, as well as capturing more stormwater and recycling more wastewater.

Peter Gleick, the Pacific Institute’s senior fellow and co-founder, said state officials are drawing the wrong conclusions from the analysis by doubling down on multibillion-dollar projects like the tunnel and Sites, “which seem certain to have less water to allocate in the future, and which do nothing to protect threatened Bay-Delta ecosystems.”

“Instead, that same money would be far better spent on efficiency improvements, ecosystem restoration, strategies to capture stormwater in Central Valley aquifers in wet years, and wastewater treatment and reuse,” Gleick said.

“The new study shows we need dramatically new thinking about water,” he said. “Instead of doubling down on the failed water policies of the 20th century, the Newsom administration has the rare opportunity to pivot to new approaches and a new vision for California water.”

State water officials this year adopted regulations requiring urban suppliers to meet conservation goals, a change that is projected to save 500,000 acre-feet of water annually by 2040.

The state Department of Water Resources is also supporting other efforts to bolster supplies through water recycling, groundwater recharge and desalination.

In a separate ongoing review, state water officials say they are analyzing various climate adaptation strategies for the State Water Project, including the tunnel, water storage above ground and underground, and changing reservoir operations based on improved forecasts.

Yarbrough said that although the state’s analysis looks at a scenario of doing nothing, “we really can’t do nothing.”

“The water’s there. It’s just showing up in these much more intense, shorter time periods followed by longer time periods of drought,” he said. “We’ve got to look at how can we be prepared for what we’re going to see here in the next hundred years.”

# # #

Desalination plant proposed for San Francisco Bay

Santa Clara Valley Water District studying San Jose, Palo Alto, Mountain View as possible locations

Mercury News | July 23, 2024 | Paul Rogers

(AP Photo/Lenny Ignelzi, File) The Carlsbad, Calif. desalination plant, that borders Interstate 5 on one side and the Pacific Ocean on the other in Carlsbad, Calif. America's largest seawater desalination plant, shown here in 2015, produces 50 million gallons of drinking water for the San Diego area each day. (AP Photo/Lenny Ignelzi)

Saying it needs to evaluate all options for new sources of drinking water, Silicon Valley's largest water district is studying a plan to build the first seawater desalination plant along the shores of San Francisco Bay.

The Santa Clara Valley Water District, a government agency based in San Jose, has approved spending $1.7 million for Black & Veatch, a Walnut Creek firm, to conduct an engineering feasibility study over the next 12 months for a project near the bay's shoreline in Palo Alto, Mountain View or San Jose.

Under the proposal, which is still in the early stages, the plant would take between 20 million to 80 million gallons of water a day from the bay, run it through filters to strip the salt out and serve from 10 million to 40 million gallons a day of freshwater to South Bay homes and businesses. That would provide about 11,000 to 44,000 acre-feet of water per year, enough for between 100,000 and 500,000 households.

The salty brine left over would be blended with treated wastewater from one of the South Bay's sewage treatment plants to reduce its salinity and be released back into the bay.

“People ask us about desalination all the time,” said Tony Estremera, a member of the Santa Clara Valley Water District’s board of directors. “Can we really do it? We don’t know. It’s worth looking at. We really do need to do a serious look at it, and this is a substantial look.”

In theory, desalination can provide an endless supply of water. In 2015, crews built a $1 billion desalination plant in Carlsbad, in San Diego County. It provides 54 million gallons per day — nearly 10% of the drinking water for San Diego. It is the largest plant in North America.

A map that shows a few locations where Silicon Valley's largest water district is studying a plan to build the first seawater desalination plant along the shores of San Francisco Bay.

Michelle Peters, a technical and compliance manager for Poseidon Water, stands in the Reverse Osmosis Building which contains the 2000 pressure vessels housing approximately 16,000 reverse osmosis membranes that dissolve salt and other minerals and separate them from the water at the Claude "Bud" Lewis Carlsbad Desalination Plant, in Carlsbad, on Tuesday, March 29, 2022. The plant, which opened in 2015, produces 54 million gallons of water a day which is delivered to San Diego County. It is the largest seawater desalination plant in the country. (Photo by Mark Rightmire, Orange County Register/SCNG)

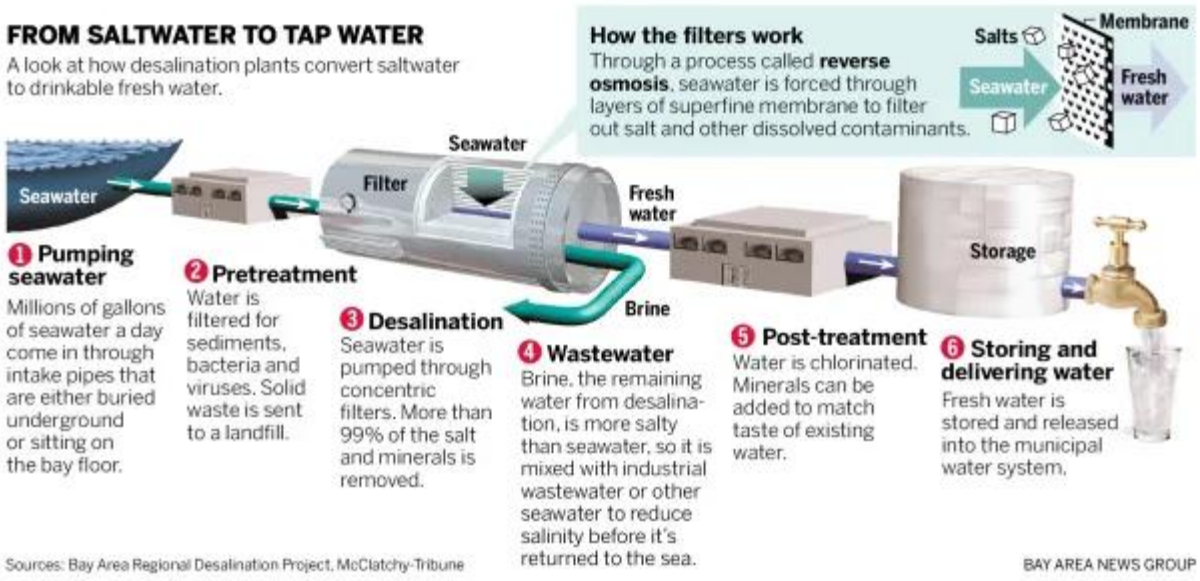
But desalination is also the most expensive type of water to produce. The San Diego County Water Authority pays $3,400 an acre-foot for the Carlsbad water — more than double the cost of water it

imports from other sources, and up significantly from the $2,200 it paid when the plant opened a decade ago.

By comparison, the Santa Clara Valley Water District pays about $400 an acre-foot to the federal and state government for water it draws from the Delta. However, that water is not as reliable during droughts.

Why is it so expensive? Desalination plants run 24 hours a day, blasting water through membranes at pressures higher than a fire hose, and use huge amounts of energy.

Desalinated water is far more costly than recycling wastewater, repairing leaky underground pipes, expanding groundwater storage, or giving people rebates to voluntarily remove their lawns or buy water-efficient appliances, experts say.



"This would be the first seawater desalination plant built in the Bay Area," said Heather Cooley, director of research for the Pacific Institute, a nonprofit water research organization in Oakland. "We haven't seen others because we have cheaper alternatives with fewer environmental impacts."

The district proposal is likely to face significant environmental opposition because it would be near, or inside, the Don Edwards San Francisco Bay National Wildlife Refuge.

David Lewis, executive director of Save the Bay, an environmental group in Oakland, said that building pipes into a national wildlife refuge to draw millions of gallons of water a day from sensitive wetland areas that are home to endangered species would almost certainly cause a major controversy.

"The public has a deep love for the bay and has made a big investment in protecting these parts of the shoreline," he said. "The public would not likely welcome new development of this type in that area."

Several alternatives have been tried in the past.

In 2009, many of the largest water agencies in the Bay Area paid to construct a pilot desalination plant in Bay Point, just west of Pittsburg. It ran for more than a year.

But the group, which included the Santa Clara Valley Water District, the San Francisco Public Utilities Commission, the Contra Costa Water District and the East Bay Municipal Utility District, dropped the idea in 2012.

“The cost of the water was higher than other sources for us,” said Andrea Pook, a spokeswoman for EBMUD. “And the environmental permitting would have been challenging.”

Similarly, the Marin Municipal Water District proposed building a desalination plant on the bay near San Rafael in 2009 but shelved the plan after Marin voters approved a ballot measure in 2010 saying desalination facilities couldn’t be built without voter approval.

Building such a plant in the South Bay, which is shallow and subject to limited tidal action, would require 14 permits from federal agencies and 8 from state agencies, according to a brief environmental feasibility study that the Santa Clara Valley Water District commissioned last year.

GEI Consultants, an Oakland firm that did the study, evaluated 13 alternatives along the San Jose, Mountain View and Palo Alto shorelines. The most feasible options, it found, were to draw in water from underground pipes in the bay off Palo Alto or Mountain View. The most likely site for a desalination plant, however, is in Alviso, the study concluded, where there is more land than other possible sites near Moffett Field and the Palo Alto Baylands. The brine could be disposed of in deeper waters in the middle of the bay, or in a marsh after being blended with treated wastewater, the study found.

The tide brings multiple shallow waves to the shore at Baylands Nature Preserve in Palo Alto. The Santa Clara Valley Water District has approved spending $1.7 million to conduct an engineering feasibility study over the next 12 months for a desalination plant near the bay's shoreline in Palo Alto, Mountain View, or San Jose. (Dai Sugano/Bay Area News Group)

The cost would be in the hundreds of millions of dollars if not more than $1 billion. Specific estimates will be part of the engineering study, Estremera said.
There are 12 ocean desalination plants in California now. Most are small and serve military bases, power plants and other facilities, like the Monterey Bay Aquarium. Apart from the Carlsbad plant, there are plants in Santa Barbara and Catalina Island. Two years ago, the Coastal Commission rejected a large plant at Huntington Beach, citing environmental concerns.

In November 2022, however, the commission approved a permit for a $330 million seawater desalination facility in Marina, in Monterey County. That plant, at the site of a former sand mining factory, will produce 5 million gallons of water a day at a cost of $6,000 an acre-foot for the water-starved Monterey Peninsula.

The commission also approved a plant in Dana Point which will produce 5 million gallons a day. It would be built by the South Coast Water District in Laguna Beach and is expected to open in 2028.

“This study is really a response to the community, and our public officials,” Estremera said. “We want to take a good serious look at this and answer once and for all whether it’s possible here.”

# # #

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State Water Board Adopts Permanent Water Restrictions
Valley Ag Voice | July 30, 2024 | Natalie Willis

(Photo: Adobe Stock)

Just before a national holiday, the California State Water Resources Control Board adopted a proposed regulation, placing permanent water restrictions on residents and urban water suppliers.

The policy, “Making Conservation a California Way of Life” was approved on July 3, and requires urban water suppliers to reduce the amount of water provided to customers over the next 15 years. If suppliers and customers fail to reduce water use, the districts would face fines of up to $10,000 a day.

As such, districts can implement mandatory restrictions and raise rates on high-volume water users. The SWB’s approval marks the first time it has moved to introduce permanent water cuts. The policy is awaiting approval from the Office of Administrative Law and, if approved, the regulation will take effect on Jan. 1, 2025.

By 2040, some water suppliers in the San Joaquin Valley, Tulare Lake, and the South Coast will be asked to make water delivery cuts of over 30%.

According to the Desert Sun, the most extensive cuts are all in the Central Valley with a 22% cut in 25 years for Visalia’s Water Service Company, a 39% cut by 2040 for the town of Exeter in Tulare County, and a 21% cut by 2040 for the city of Fresno.

The first round of water cuts is required by 2025.

BACKGROUND

The policy was developed to build off of Senate Bill 606 and Assembly Bill 1668 which former Governor Jerry Brown signed into law in 2018. The bills were widely supported by a coalition of water suppliers, environmental groups, and lawmakers to address water usage by urban and agricultural sectors.

The legislation places responsibility on urban water suppliers to adhere to new efficiency standards tailored for indoor and outdoor residential use, water loss due to leaks, and specialized needs based on local conditions.

In addition to urban mandates, the legislation requires agricultural water users to expand water management plans to include annual water budgets and efficiency goals aimed at minimizing water loss and enhancing drought resilience.

To carry out this legislation, the Department of Water Resources provided recommendations to the SWB in 2022, and the Board began the rulemaking process for the regulation in August 2023.

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