BAY AREA WATER SUPPLY AND CONSERVATION AGENCY
BOARD OF DIRECTORS MEETING

July 12, 2024

Correspondence and media coverage of interest between June 26, 2024 and July 10, 2024

Correspondence

From: Dave Warner
To: BAWSCA Board Members and CEO/GM Nicole Sandkulla
Date: July 9, 2024
Subject: The SFPUC's Significant Financial Risks and Our Rates

From: Info@losvaquerosjpa.com
To: Stakeholders
Date: June 28, 2024
Subject: Los Vaqueros Reservoir Joint Powers Authority Update

Press Release

From: Water For All
Date: June 26, 2024
Subject: Senate Bill 366, That Would Secure Long-Term Supply, Advance Through Assembly Committee Unanimously

Water Supply Conditions:

Date: July 2, 204
Source: EOS
Article: Water Scarcity Likely to Increase in the Coming Decades

Date: June 27, 2024
Source: Maven Reports
Article: Report Summary: The Magnitude of California's Water Challenge

Date: June 26, 2024
Source: Phys.org
Article: The West is warming and drying so fast that a crucial drought-monitoring tool can't keep up, study says

Water Management:

Date: July 10, 2024
Source: The Sun
Article: Permanent water restrictions headed to California

Date: July 9, 2024
Source: LA Times
Article: Amid extreme heat, California adopts long-term water-saving targets for cities

Date: July 5, 2024
Source: The Hill
Article: California advances first-in-nation plan to set water budgets for cities statewide

Water Management, cont'd.:

Date: July 3, 2024
Source: Cal Matters News
Article: California now has mandatory water conservation in urban areas: How will the new rules affect your supplier?

Date: June 26, 2024
Source: Maven's Notebook
Article: Now Available: State Water Board relaunches updated water use tracker

Water Policy:

Date: July 8, 2024
Source: Courthouse News Service
Article: California Supreme Court reverses Public Utilities Commission on water surcharges

Date: July 4, 2024
Source: Bay City News
Article: New law pressures California water agencies to meet 2040 goals

Date: July 3, 2024
Source: San Francisco Chronicle
Article: California to impose first-ever permanent water restrictions on cities and towns

Date: June 26, 2024
Source: California Globe
Article: Statewide Long-Term Water Supply Expansion Bill Passes Assembly Committee

Water Rates

Date: July 9, 2024
Source: San Francisco Chronicle
OpEd: San Franciscans: Brace yourselves for skyrocketing water and sewer rates, too

July 9, 2024

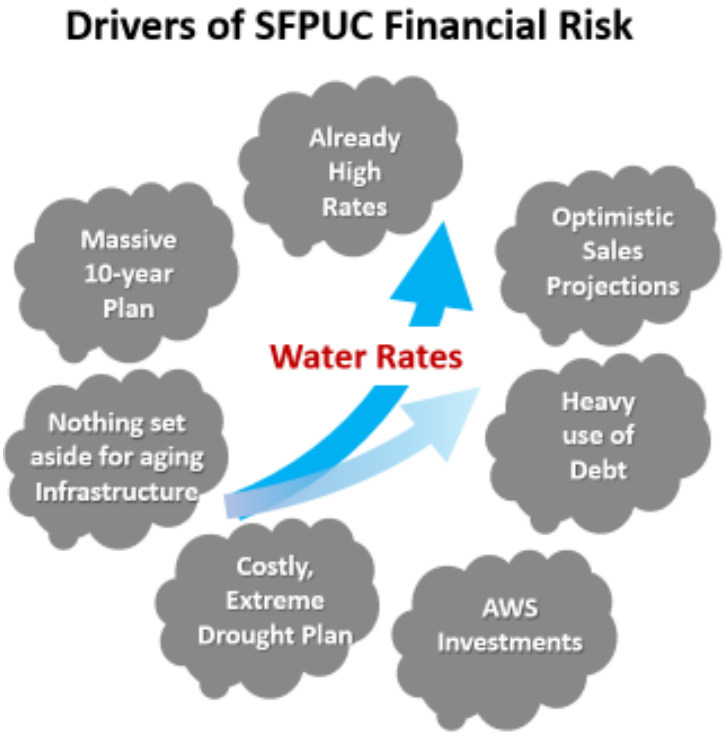
Re: The SFPUC's Significant Financial Risks and Our Rates

Dear BAWSCA Board Members and CEO Sandkulla,

Thank you for your service!

The SFPUC is facing significant financial risks which puts further upward pressure on our already high water rates. But remarkably SFPUC leadership doesn't appear to understand the problem (or disregards it) and BAWSCA so far has not given it attention. Please consider pressing for corrective action. Step one could be requesting an operational audit of the SFPUC by an independent third party which should include an assessment of the issues below.

The SFPUC's financial risks to ratepayers have at least seven components which all contribute to driving up already exceptionally high water rates:



1) **<u>Wholesale rates have already jumped:</u>** Less than 3 years ago wholesale water rates were $1,786 per acre foot. Starting July 1 they jumped to $2,470 per acre foot, an almost 40% increase. The 2015 rate was $1,276 per acre foot. Our rates will have almost doubled in just 10 years. We already have the highest wholesale water rates of all the major California water suppliers.

2) **<u>A stunning 10 year capital plan:</u>** Last year's 10 year capital plan was massive in itself, at $8.8 billion. This year's 10 year capital plan grew by 34%, to $11.8 billion. The SFPUC argued that the investments were needed, particularly related to sewer systems (which we don't pay for), but the biggest component of the increases is related to water systems, not sewer systems. To exacerbate this problem, the 10 year capital plan has no significant investment in Alternative Water Supplies (AWS). Even without any significant investment in AWS, the SFPUC projects our wholesale water rates to grow to $3,200 per acre foot in 2034.

3) **<u>Projections based on increasing water demand/sales.</u>** For the last 20 years the SFPUC's Regional Water System (RWS) demand has been in decline, from ~260 mgd in 2003 to 178

mgd in 2023, a 30%+ drop. If water demand doesn't grow as the SFPUC and BAWSCA currently projects, this will put further upward pressure on rates as selling less volume means that the per unit price has to go up in order to cover costs. While SFPUC staff and the BAWSCA CEO have been pressing for years that water demand is "hardening," (meaning, will stop going down) demand continues to decline. The SFPUC commissioner who's a water scientist expects that we have not reached demand "hardening." The Pacific Institute, a respected water resilience think tank, shares this view.

4) **The SFPUC says we need to develop 92 mgd of AWS despite demand trends.** The SFPUC's June AWS report projects a 92 mgd shortfall in supply. Developing 92 mgd of AWS would cost in the range of $17 billion, all incremental to the current 10 year capital plan again causing rates to increase well beyond projections. Worse yet, if the AWS are built and not needed, rates would need to go even higher still. In the context of long term declining demand, it's hard to imagine that anything close to 92 mgd of AWS will be needed.

   The SFPUC's 2021 Long Term Vulnerability Assessment (LTVA) warned about the impacts of demand and spending on water rates:

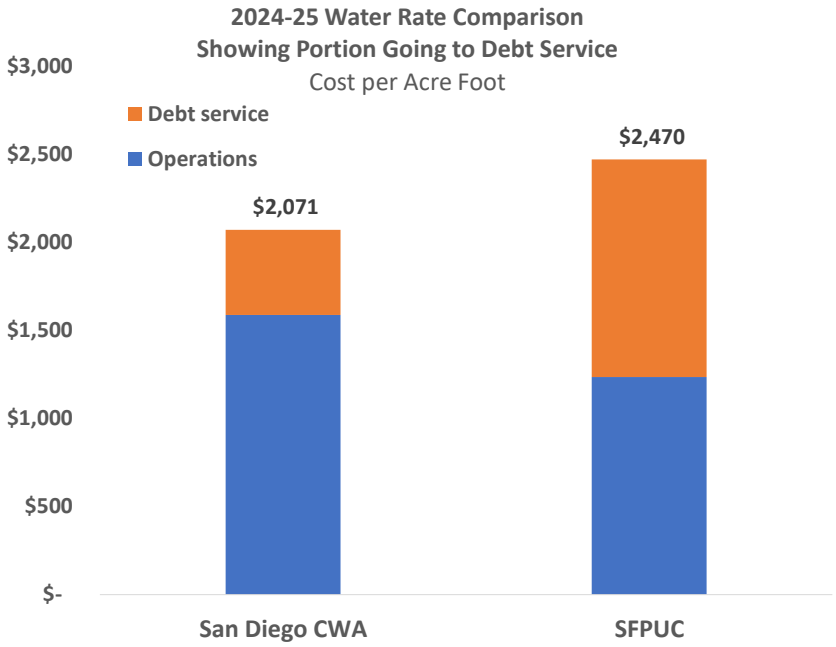
   > "In a situation in which major capital investment is required to add additional supply to the system as a result of new instream flow requirements and/ or decreases in precipitation as a result of climate change, demand would need to increase significantly to mitigate substantial increases in the price of water for customers. For example, if annual CAPEX spend were to increase from the 2020 baseline of $350M to $525M under the $500M OPEX spend scenario (right hand side of Figure 5-84), demand would have to increase by 30% in order to maintain existing prices or else rise by ~50% from $10/ccf to $15/ccf. However, results presented above also show that system performance is very sensitive to even small increases in demand. **Thus, in considering new capital investments, a trade off must be made between reliability and price."**[1]

   To put it in today's context, the LTVA contemplated demand scenarios from 227 mgd to 334 mgd. Last year's demand was 178 mgd. The LTVA's referenced 2020 capital spending was $350 million. FY 24/25 capital spending for Water Enterprise and Hetchy Water is $1,045 million and for FY 25/26 is $1,004 million. The projected 10 year average capital spending is $450 million but includes no significant investment in alternative water supplies. As compared to 2020, now 4 years later we have already exceeded the LTVA capital spending

[1] "Long Term Vulnerability Assessment and Adaptation Plan for the San Francisco Public Utilities Commission Water Enterprise - Phase I," Prepared by: Baptiste François, Alexa Bruce, Khanh Nguyen, Dong Kwan Park, and David Rheinheimer **University of Massachusetts, Amherst** Umit Taner **University of Massachusetts, Amherst**; **and Deltares** Sungwook Wi and Hassaan Khan **University of Massachusetts, Amherst** Alexis Dufour and David Behar **San Francisco Public Utilities Commission** David Yates and Caspar Ammann **National Center for Atmospheric Research** Marjolijn Haasnoot **Deltares** Casey **Brown University of Massachusetts, Amherst,** 2021**,** page 235. Underlining and red coloring provided by Dave Warner.

projections and have seen demand declining rather than slowly ascending to the lower bounds of their demand projections. **The LTVA foresaw the climbing water rates that we're struggling with today.**

5) **The capital plan is financed primarily by debt.** Funding investments through debt typically doubles or more the cost of a project as debt service costs exceed the cost of the original investment, particularly with debt repayment periods of 30 years or more. Today's high water rates are due in part because the SFPUC already has a large amount of debt, before taking into account this 10 year capital plan. **Half of our water payments to the SFPUC go to debt service.**

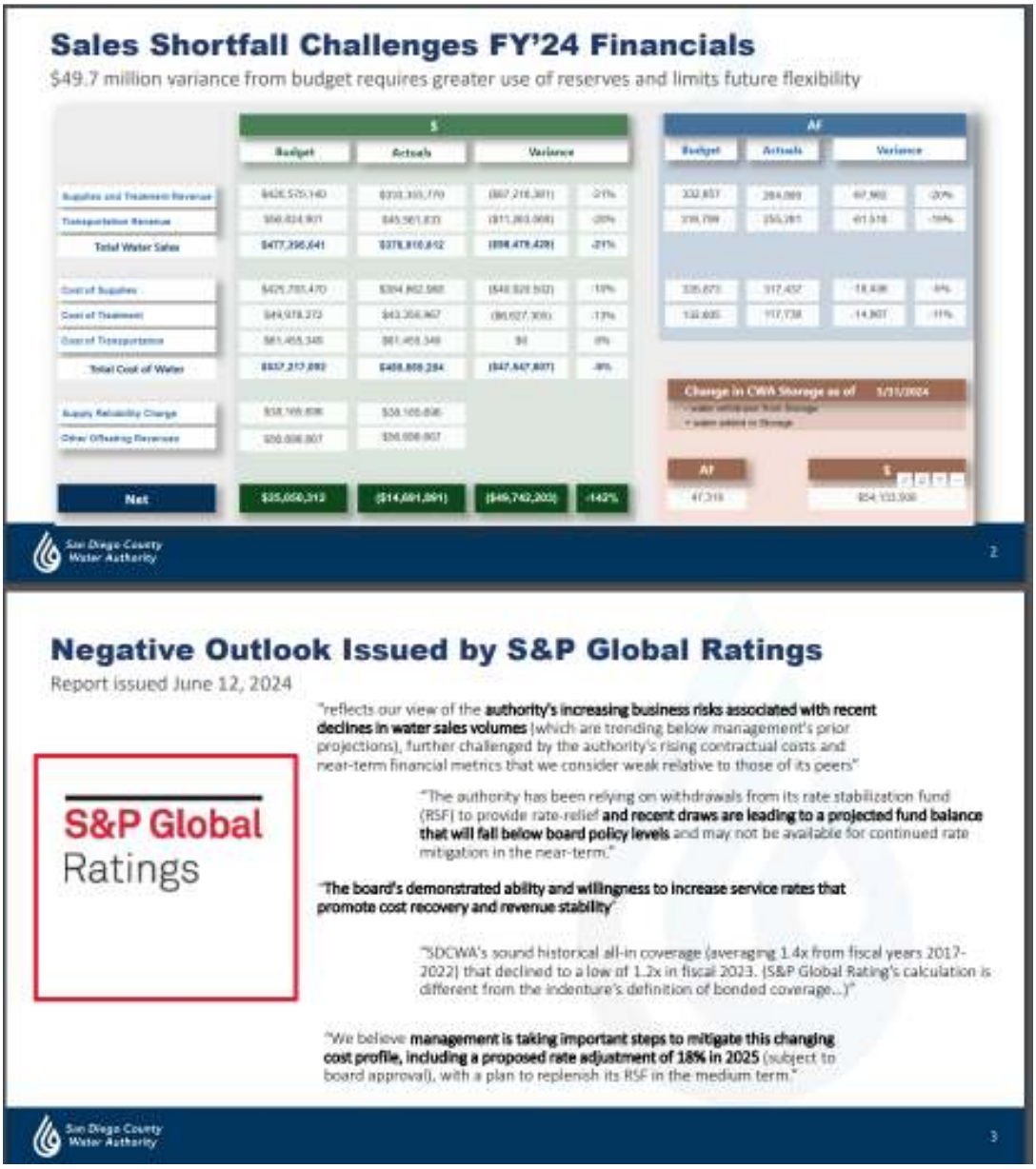


6) **The SFPUC doesn't have any stated infrastructure replacement cost reserves.** Prudent management/best practices would call for building up reserves for the replacement of aging infrastructure. Not having such reserves means that the SFPUC will likely have to add yet more debt to pay for the replacement cost of aging infrastructure. **The result will be more debt and no relief on exceptionally high and growing water rates for generations.**

7) **The SFPUC has an unusually conservative drought planning model, tying up an unneeded 25 mgd or more per year in supply.** At the time the SFPUC established the model, robust risk analyses weren't available, but with the availability of watershed tree ring data in the last 10 years and now with the addition of robust statistical models, the SFPUC's drought planning model is estimated to occur once in 25,000 years, including when taking into account climate change.[2] If the SFPUC were to make a modest reduction to its drought model to move risk to the range of once in 1,000 years, 25 mgd per year or more of supply would be freed up, offsetting potential AWS needs.

[2] Ibid. page xxii: "According to climate projections and expert elicitations, there is a central tendency of warming of +2°C and +4°C by 2040 and 2070 (Representative Concentration Pathway [RCP] 8.5), respectively, with no clear direction of change in mean annual precipitation over the planning horizon.

Let's Learn from San Diego's Mistakes



Slides taken from San Diego County Water Authority's June 27, 2024 Board Meeting

The San Diego County Water Authority (SDCWA), even with lower water rates and debt service costs, is facing significant financial challenges. Demand has declined below forecasts, they've had to scale back the use of their Carlsbad desalination plant, sell water, and see its credit rating drop, and propose an 18% one year jump in water rates.[3]

The SFPUC hasn't Acknowledged the 7 Concerns

Step 1 is problem recognition, which the SFPUC has not acknowledged in any significant way. There's been no mention of scaling back their 10 year financial plan. The latest Alternative Water

[3] "VOICE OF SAN DIEGO: San Diego's water prices face doomsday increase,"Voice of San Diego News June 27, 2024.

Supply Report emphasized that there's a 92 mgd supply shortfall despite the LTVA's warning. There's been no mention of any concern with 50% of our rates going to cover debt service and no mention of a need to set aside funds for replacing aging infrastructure. And worst of all, there's been no acknowledgement that the projected large rate increases could be even worse.

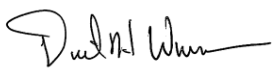
Actions to Consider

Step 1 is problem recognition, which has not yet occurred. Please ask the SFPUC to conduct an operational audit by a reputable third party acceptable to BAWSCA. The operational audit should review, amongst other things, the seven items raised here.

Or at a minimum, as a Board please take steps to better understand the issues raised here. The better the problem is understood and the sooner it is understood, the easier it is to address. We're not yet where the SDCWA is.

Please band together as a Board and take action. Your ratepayers depend on you.

Kind regards,



Dave Warner

PS. Apologies that I will not be participating in your July 18th Board meeting.

cc: SFPUC Commissioners
Dennis Herrera, SFPUC General Manager
Steven Ritchie, SFPUC Assistant General Manager, Water Enterprise
Nancy Hom, SFPUC Chief Financial Officer
Laura Busch, SFPUC Deputy Chief Financial Officer
Erin Corvinova, SFPUC Financial Planning Director

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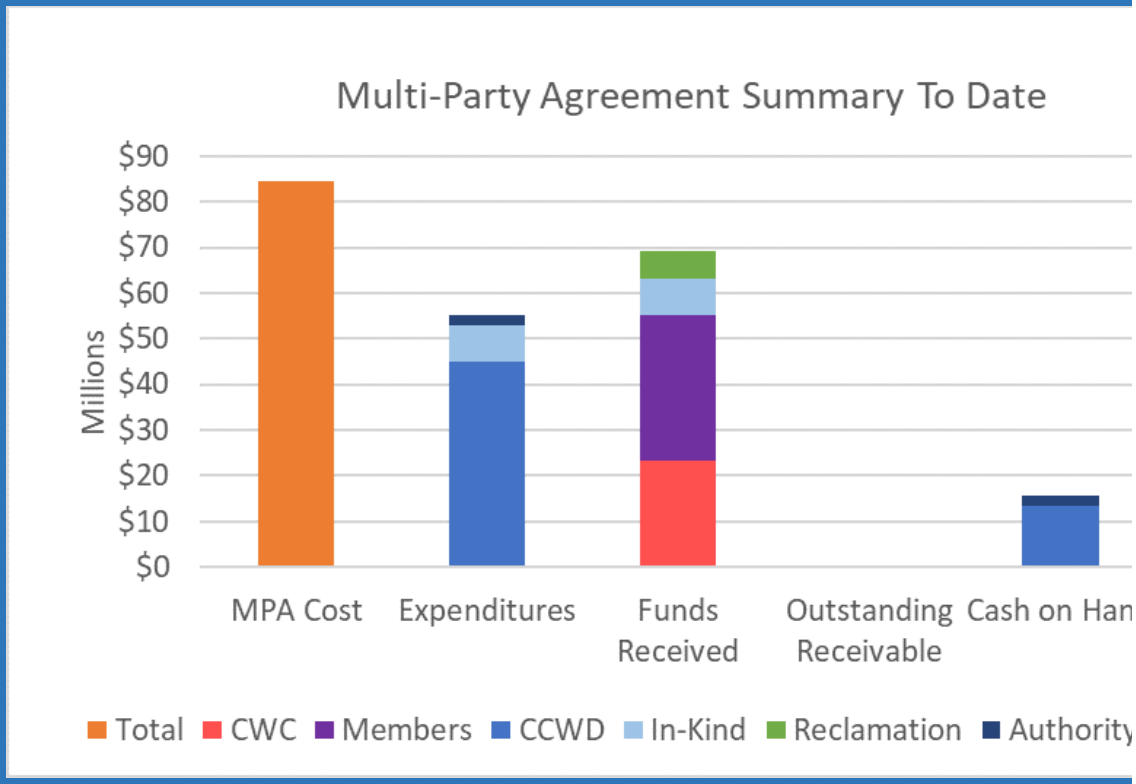
June 28, 2024

Los Vaqueros Reservoir Joint Powers Authority Update

UPDATE ON MULTIPARTY COST SHARE AGREEMENT

The following chart provides an overview of the MPA expenditures through May 31, 2024, as well as in-kind services, funds received, outstanding receivables, and cash on hand.



JUNE BOARD OF DIRECTORS MEETING RECAP

On June 12, the JPA Board of Directors met in person at Zone 7 Water Agency. Action items included an election to fill JPA Board and committee vacancies, approval of the Fiscal Year 2023 audit report, adoption of a resolution approving the Fiscal Year 2025 budget, and adoption of a resolution approving Fiscal Year 2025 consultant contract amendments. The Board also received updates on budget and schedule, agreements, design and permitting, federal relations activities, and engagement with Reclamation. The next JPA Board Meeting is scheduled for July 10 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.

JPA BOARD OF DIRECTORS RECOGNIZES ANGELA RAMIREZ HOLMES

At its June 12 meeting, the JPA Board recognized Angela Ramirez Holmes for her dedication to the Phase 2 Los Vaqueros Reservoir Expansion Project and assistance to the JPA. Ms. Ramirez Holmes has been instrumental in advancing the Project during her many years of public service on the Zone 7 Board of Directors, as well as serving as the first Chair of the JPA's Board, and as chair of the JPA's Communications and Outreach Committee. She assisted with the formation and organization of the JPA, and adeptly represented this unique regional partnership in interactions with various state and federal agencies to move the Project forward.

ENGINEERING UPDATE

The Project cost estimate was updated to reflect the current schedule. Costs increased from $1.44B to $1.59B, not including JPA administration costs. Details were provided on the land acquisition process for the project facilities.

The design for the dam expansion facility received approval from the California Division of Safety of Dams. Consistent with the Capital Preservation Strategy, design for Pumping Plant 1 was placed on hold after progressing to 90 percent complete. Design work on the Transfer Bethany Pipeline reached 30 percent complete and was placed on hold. Design will resume pending receipt of funding from the California Water Commission.

UPCOMING MEETINGS

July 10 – 9:30 a.m.
JPA Board Meeting (Zone 7 Water Agency)

July 16 – 8 a.m. (Rescheduled)
JPA Finance Committee Meeting (Virtual)

July 18 – 10 a.m.
JPA Operations & Engineering Committee Meeting (Virtual)

ADDITIONAL PROJECT INFORMATION

losvaquerosjpa.com

ccwater.com/lvstudies

PRESS RELEASE from Water For All
Maven's Notebook | June 26, 2024

Senate Bill 366, That Would Secure Long-term Water Supply, Advances Through Assembly Committee Unanimously

CA Water for All thanks the California State Assembly Water, Parks, and Wildlife Committee for its unanimous passage of Senate Bill 366 authored by Senator Anna Caballero (D-Merced). SB 366 will establish statewide water supply targets while requiring the State, water community, and stakeholders to follow through on comprehensive, long-term water supply solutions that will transform water management in California, ensuring adequate and reliable supplies for all beneficial uses.

SB 366 was approved by the Committee on a unanimous 13 – 0 vote and will face its next hearing in the Assembly Appropriations Committee in August.

"We're pleased that the Committee sees the importance of SB 366 and understands the urgency in which California must make a change to secure a long-term and reliable water supply for the State's future. We'd like to thank the Committee for keeping this vital legislation moving forward," said Danielle Blacet-Hyden, Deputy Executive Director, California Municipal Utilities Association (CMUA), co-sponsor of SB 366. "The Governor said himself, 'the water system in California was designed for a world that no longer exists.' With SB 366, the state can reverse the trend of overreliance on water cutbacks and rationing by working with the water community to rectify the decades-long, statewide water supply threats that are impacting 40 million Californians."

SB 366 would secure California's future water supply by doing the following:

- Establish necessary water supply targets to capture and produce enough water for all uses.
- Modernize the California Water Plan for a 21st century climate.
- Ensure accountability for state agencies on water management issues.
- Compliment and amplify Governor Newsom's Water Supply Strategy, ensuring there are water supply targets that extend beyond any single Administration.

"It is critical that the California Legislature take the necessary steps to address the inadequacies in California's water system that are evident in times of drought and heavy rain, impacting supply for all Californians," said Senator Anna Caballero, author of SB 366. "We have new UC research that shows significant water supply losses that we can expect annually in coming years. A new approach guided by state policy must be implemented to meet these ongoing and anticipated challenges. My communities and communities statewide need bold action to secure our state's water supply future."

“California’s perpetual water supply challenges continue to threaten our communities, businesses, economy, jobs, and the California way of life,” said Craig Miller, General Manager, Western Water. “SB 366 will shift the way our state approaches water management by establishing necessary water supply targets, set in statute, that will create accountability and a commitment from the State, the water community, and all stakeholders to establish necessary change.”

As a result of evolving and worsening climate conditions, an aging water infrastructure, a growing population, a global economy, and antiquated state policies, California will continue to face an ongoing water supply shortage of historic proportions. California’s current water system requires extraordinary commitment and investment in new water supplies. Policy solutions must be advanced to meet environmental, agricultural and urban uses, we all have a responsibility to ensure the future of our water supply.

Co-sponsors of SB 366 include the California Municipal Utilities Association (CMUA), the California State Association of Counties (CSAC), and the California Council for Environmental and Economic Balance (CCEEB).

To learn more about SB 366, visit the state’s Legislative Bill Information portal. CA Water For All is a statewide effort seeking to educate policymakers on the urgent need for a legislative solution to address California’s ongoing water supply challenges. The effort is focused on bringing together the water community, policymakers, and stakeholders to collaborate on ensuring Californians have a sustainable and reliable water supply for all beneficial uses now and for future generations. To learn more or become a supporter, visit www.CaWaterForAll.com.

# # #

Water Scarcity Likely to Increase in the Coming Decades

Hydrological modeling suggests that by 2100 more than 65% of the world's population might, at least sporadically, lack access to clean water.

EOS | July 2, 2024| Katherine Kornei

Credit: Nathan Dumlao, Unsplash

It falls from the sky and, in some parts of the world, runs freely from faucets. But accessing clean water is an issue for a significant swath of the population, and the situation is only apt to worsen in coming decades, new modeling work reveals. About 55% of the world's population currently has trouble accessing clean water at least 1 month out of the year, and by 2100, that number could rise above 65%, researchers calculated. Minimizing water scarcity now and into the future will rely on curbing water use, reducing pollution, and mitigating the effects of climate change, the researchers suggest.

From agriculture to manufacturing to cooking and drinking, human existence is inextricably linked to the availability of clean water. That need is reflected in the United Nations' Sustainable Development Goal 6, one of 17 goals representing targets for global development.

But reliably accessing clean water is, in many parts of the world, a dance: Water availability and demand must be synced not only geographically but also in time, said Edward Jones, a hydrology and water quality modeler at Utrecht University in the Netherlands. "There are strong seasonal variations in availability and quality and, to some extent, demand."

Quantity and Quality

Jones and his colleagues used a hydrological model to estimate water scarcity worldwide through the year 2100.

One innovative aspect of their research was considering not only water quantity (the traditional focus of water scarcity studies) but also water quality. “We’re going beyond the more traditional look,” Jones said.

While not having enough water is an obvious problem—“If we turn on our tap and water doesn’t run, that’s very visible,” Jones said—the issue of water quality is equally important. “It’s always been the invisible brother of water availability,” he continued. “It’s past time to also consider water quality.”

To assess water quantity and quality, Jones and his colleagues considered five global climate models. The outputs of those models—air temperatures, precipitation, and evapotranspiration—in turn fed into a hydrological model that simulated the water cycle and how water moves between surface and subsurface reservoirs. It was important to analyze multiple climate models because there’s a fair bit of uncertainty in each, Jones said. “We try to show the range of what could happen.”

The hydrological model that the team used parameterized water demands across domestic, industrial, livestock, and irrigation sectors. The researchers also relied on a separate surface water quality model that took into account potential water contaminants caused by anthropogenic activity such as agricultural runoff and improper wastewater management. Those contaminants included salts, organic pollution, and bacterial pathogens.

Allowable contaminant levels were permitted to vary depending on how the water was being used, Jones said. “We consider different thresholds associated with the different sectors.” Water bound for domestic use was required to have the lowest levels of contaminants, and water used for irrigation was allowed to be the most contaminated.

To investigate how water scarcity would evolve over time, Jones and his colleagues considered three scenarios combining Representative Concentration Pathways (RCP) and Shared Socioeconomic Pathways (SSP). These scenarios describe not only the environmental changes in air temperatures, precipitation, and evapotranspiration associated with a changing climate but also societal shifts such as population growth, urbanization, and technological and economic development. The researchers considered monthly outputs from their modeling in roughly 10- × 10-kilometer grid cells.

The Importance of Efficiency

Researchers were surprised to find that the worst-case scenario they considered—RCP 8.5 and SSP 5—didn’t result in the largest number of people being exposed to clean water scarcity. The researchers attributed that finding to the increased economic development and heightened water use efficiency built into that particular SSP. The scenario defined by RCP 7.0 and SSP 3 yielded the largest population experiencing clean water scarcity, the team reported in Nature Climate Change.

When interpreting findings like these, it’s important to remember their context, said Bridget Scanlon, a hydrologist at the University of Texas at Austin not involved in the research. For instance, the authors’ choice to parameterize clean water scarcity as lacking access to clean water for just 1 month out of a year is rather conservative, Scanlon said. “You can probably

manage 1-month-a-year scarcity.” Focusing on prolonged water scarcity—triggered by multiyear droughts, for example—might be a more illustrative way of looking at clean water scarcity, she said. However, other studies have also considered water scarcity on the basis of shortages occurring 1 month out of a year.

This work also considered only a limited range of water contaminants and didn’t include compounds such as arsenic and nitrates, said Scanlon, who hosts the Water Resources Podcast. “They don’t take naturally occurring contaminants into account.” That omission could have biased the team’s results to be low, she said. “It could be even worse than what they’re presenting.”

Minimizing clean water scarcity going forward will require a concerted effort, Jones and his colleagues acknowledged. There’s a trifecta of challenges to tackle, and each is nothing short of a major undertaking: limiting climate change, reducing water use, and minimizing pollution in the environment. “These three aspects are really key,” Jones said.

# # #

—Katherine Kornei (@KatherineKornei), Science Writer

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REPORT SUMMARY: The Magnitude of California's Water Challenges
Maven Reports | June 27, 2024

A serpentine stretch of the East Branch California Aqueduct in Palmdale, California within Los Angeles County at mile post 327.50. Photo taken February 7, 2014. Florence Low / DWR

California is on the brink of a water crisis, with projections showing a potential decrease in water availability by 4.6 to 9 million acre-feet yearly. Despite conservation efforts, scarcity is inevitable, according to a new report titled "The Magnitude of California's Water Challenges."

Commissioned by the California Municipal Utilities Association and written by Jay Lund at UC Davis, Josue Medellín-Azuara at UC Merced, and Alvar Escriva-Bou with UCLA, the report outlines the state's water management issues and predicts future water losses. These estimates aim to guide public policy and investment choices in addressing California's pressing water concerns.

WATER USE TRENDS

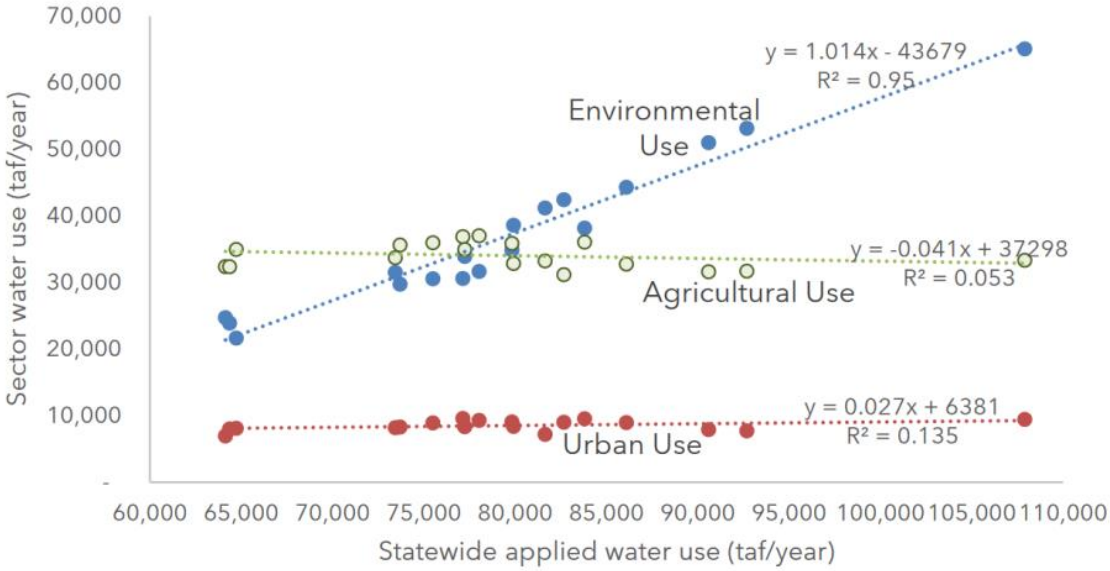
Over the past 150 years, California's water policy has focused on developing infrastructure and institutions to provide water for economic and population growth. As the economy shifted from mining to agriculture to manufacturing and ultimately to providing services, the economy has become less dependent on abundant water supplies. Today, roughly 95% of California's population and economy are urban and supported by approximately 20% of California's human water use. The urban economy, primarily service-oriented, is not driven by water abundance, and per-capita water use in urban areas has diminished.

However, most rural areas depend on domestic wells and small water systems and face water quality, affordability, and supply problems. Small water systems are often out of compliance with drinking water standards, and domestic wells are polluted with one or more contaminants. Many domestic wells have dried up from declining groundwater levels. These problems

disproportionately burden poor communities of color in the San Joaquin Valley and elsewhere. The state is working to address these problems through the Safe and Affordable Funding for Equity and Resilience (SAFER) program.

Figure 2 shows how each sector's water use has varied in recent years with the overall wetness of each water year. Although the environmental sector has the greatest average water use (relying on wetter years for most of its use), agriculture is the largest sector in most years (increasing use in dry years). Urban water use decreases slightly in drier years, and is rather steady.

FIGURE 2: SECTOR WATER USE VS. TOTAL APPLIED USE (TAF/YEAR)



Notes: Data from the Department of Water Resources, 2012-2020. Data for 2017 is unavailable.

The report summarizes potential changes in water use for each sector:

- **Urban water use**: Urban water use includes residential, commercial, industrial, and institutional usage in cities and rural areas. With current per capita urban use and population projections, total urban water use is unlikely to grow at the pace of the last century. Improvements in water use efficiency and conservation policies will likely drive further reductions in total urban water use, perhaps by a further 10-20%, depending on population growth.
- **Agricultural water use**: Agricultural water use is predominantly water used for irrigation from both surface and groundwater sources. Changes in crop evapotranspiration from a changing climate will affect agricultural water demands by increasing demands by 5 to 10% in dry years. This increased irrigation demand will likely increase overall scarcity.
- **Environmental water use**: Environmental uses include water for instream flow requirements, managed wetlands, required Delta outflow, and wild and scenic river

flows. Regulations, such as water quality regulations and standards for salinity control, are likely to continue and accelerate to improve or maintain ecosystem health. However, higher temperatures, longer summers, more evapotranspiration, and diminishing snowpack are making conditions less suitable for many of the state's native species. Sustaining native and desirable ecosystems will likely require more water and other resources.

WATER SUPPLY LOSSES

California faces increasing water scarcity due to climate change, the implementation of SGMA, and the challenges of long-term drought on the Colorado River. The reduction in water availability in the coming decades could range from 4.6 to 9 MAF per year, equivalent to roughly 3 million acres of irrigated agriculture or most urban water use. Conservation and water supply improvements could address about 20-30% of the shortages, leaving a 3 – 7.2 MAF per year average difference between statewide water demands and availability.

These losses include:

- **Ending groundwater overdraft under** SGMA will eliminate 2-3 million acre-feet/year of unsustainable groundwater pumping.
- **Reduced Colorado River supply to California** is needed to stabilize reservoirs and improve the sustainability of Colorado River basin water supplies; 1.5-2.5 maf/year will likely be needed.
- **Climate change** will increase evaporation and evapotranspiration (ET) from watersheds and crops, reduce snowpack, raise sea levels affecting Delta exports, and cause more intense atmospheric rivers and other changes. These seem likely to average between 1-3 maf/year, even with some reoperation of water systems. This will increase the state's already high surface water supply variability, challenging flood and drought management.
- **Increased environmental flows** for Bay-Delta outflows and other streams seem inevitable to comply with environmental laws and regulations and will likely total 1-2 maf/year.
- **Other supply losses**: In the coming decades, the salination of some aquifers will render them less useful, particularly in the Tulare basin. Impairment of water supplies from nitrate or other pollutants also may reduce the availability of safe drinking water

TABLE 2: ANTICIPATED MAJOR CHANGES IN WATER SUPPLIES FOR CALIFORNIA IN THE COMING DECADES (See Appendix for sources)

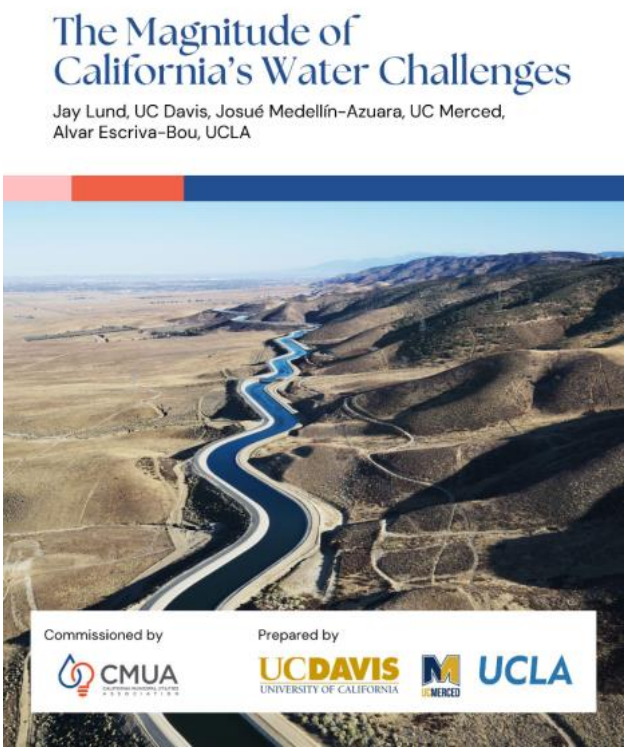
Change	Estimated Average Loss Quantity	Description
Ending groundwater overdraft	2-3 maf/year	SGMA requires eliminating groundwater overdraft by 2040
Reduced Colorado River supplies	0.5-0.8 maf/year	Address historical imbalance of about 1.5-2.5 maf/yr in lower Colorado River Basin supplies and demands, plus climate change reductions
Climate change	1-3 maf/year	Warmer climate increases evaporation and shifts flows to winter, which are harder to capture
Increased environmental flows	1-2 maf/year	Anticipated increases in statewide environmental flows (especially in non-winter months)
Other supply losses	0.1- 0.2 maf/year	Aquifer salination, effects of reduced conveyance and storage capacities due to subsidence, water quality impairment, etc.
Total #	**4.6 - 9 maf/year**	**For context, this quantity is roughly 1.5-3 million acres of irrigated land, or 50-90% of urban water use**

The likely total range is nearer the middle of this range of summed minimum and maximum range since it is unlikely that everything goes well or poorly.

where treatment costs are prohibitive. Land subsidence from groundwater pumping has reduced canal conveyance capacities in the southern Central Valley and might reduce the ability to capture water in the wetter years. New infrastructure can provide some additional water supplies and efficiencies in existing water uses but is unlikely to supply enough to eliminate all water scarcity in most years.

CONCLUSIONS

Among the conclusions, the report points out that California will always have water challenges. California's water infrastructure, technologies, and institutions also need to adapt.



Water supply problems vary considerably across the state, and fortunately, California has a diverse portfolio of options to manage these challenges. However, important water problems remain for all sectors, with the most significant challenges for ecosystems, rural drinking water supplies, and agriculture.

Recent droughts have exposed the growing limitations of California's water system. Droughts exacerbate water scarcity and its impacts far beyond average scarcity conditions. Adapting infrastructure, institutions, and preparations to manage droughts potentially more extreme than those seen historically, along with more intense precipitation events, will be vital for maintaining public health, prosperity, and ecosystems through the inevitable droughts.

Some water scarcity is unavoidable for California, as eradicating it completely would come at a high economic and environmental cost. By tailoring actions to changing conditions, California can reduce the impact of water scarcity within sustainable levels and enhance the state's resilience to climate change. The report notes that a certain level of scarcity can actually benefit water users and managers by fostering innovation and maintaining focus.

The report concludes, "With prudent and deliberate actions, most, but not all, water uses can be reliably supported while keeping a thriving economy. Good management and policy for this situation requires organized serious attention, without complacency or panic."

# # #

The West is warming and drying so fast that a crucial drought-monitoring tool can't keep up, study says

Phys.org | June 26, 2024 | Elise Schmelzer

Drought in the American West is becoming a persistent reality instead of a periodic emergency due to climate change, and a recent study found that an essential tool used to measure drought can't keep up.

Every week since 1999, the U.S. Drought Monitor has published a new map showing drought conditions across the country, with five categories of drought severity depicted in shades of yellows, oranges and reds. Policymakers and elected leaders in Colorado and other states use the map to make critical decisions about water use, campfire bans, declarations of emergency and more.

And multiple federal agencies use the map to determine how much financial aid is filtered to ranchers and farmers in times of drought.

But what was once considered an exceptional, rare drought is no longer so rare, the study found.

An "exceptional drought"—the most severe category of drought, depicted in dark red—should occur in a region only 2% of the time, according to the monitor's guidelines. But some areas of the western U.S. have been in exceptional drought 18% of the time, according to a study published in AGU Advances. An exceptional drought is also more harmful than it was when the monitor was founded more than two decades ago, the study states.

"What is the value to a decision-maker of a map that is just red all of the time?" said Justin Mankin, a professor at Dartmouth College and the study's lead author. "It doesn't help you triage resources."

In Colorado, the severity, length and breadth of droughts can have substantial impacts on the state's $47 billion agriculture industry. Swaths of the state are so often in drought that brief reprieves from dryness merit news stories—as in 2023, when the Drought Monitor declared the state drought-free for the first time since 2019.

But dryness has returned and nearly half of Colorado is now in drought or has near-drought conditions, according to the monitor's most recent report.

Mankin and the other study authors explored two ways to better incorporate climate change into the monitor reports, but both have drawbacks.

Those in charge of the Drought Monitor—the National Drought Mitigation Center at the University of Nebraska-Lincoln, the National Oceanic and Atmospheric Administration and the U.S. Department of Agriculture—could create a new category for drought that is more severe

than "exceptional drought." Scientists have similarly proposed creating a new Category 6 for measuring hurricanes as they intensify due to climate change.

Another solution could be to adjust the data used as the "normal" baseline for the Drought Monitor so that it includes more recent drier years.

The Department of Agriculture last year updated its plant hardiness map to incorporate more recent data indicative of climate change. The map helps farmers and gardeners decide what and when to plant based on their location.

Making such a shift with the Drought Monitor, however, would mute the existence of climate change and would minimize impacts on people affected by aridification, Mankin said.

The Drought Monitor is a crucial tool, he said, and there will be no silver bullet or simple solution to adapt it to climate change. Instead, he said, "a constellation of fixes and investments" is needed.

# # #

Permanent water restrictions headed to California

The state has approved new permanent restrictions to conserve water.

The Sun | July 10, 2024 | Reid Stone

An aerial view of the path of the proposed tunnels in the Delta on November 1, 2017. Kelly M. Grow/ California Department of Water Resources

California will implement permanent water restrictions for the first time in history to reduce statewide water use and minimize severe water reductions during droughts.

Retail water suppliers, not individual households or businesses, will be mandated to reduce water use by around 30% over the next 15 years, with non-compliant suppliers facing $10,000 daily fines.

The big picture: The policy is called Making Conservation a California Way of Life and was approved by the state Water Resources Control Board.

- Suppliers will need to implement measures to encourage customers to reduce water consumption, such as enforcing restrictions or advocating for the use of low-flow appliances.
- The cuts will not follow a one-size-fits-all approach but will be determined based on various factors like past water consumption, climate, and land use.

- Different regions will experience varying levels of water use reductions, with some regions like the Bay Area having historically low water use and others like Los Angeles County facing higher projected reductions.
- The policy, initiated by legislation that was signed by former Gov. Jerry Brown in 2018, is expected to be effective from January 1, 2025, with the first round of cuts slated for 2027. While some water agencies have criticized the policy, environmental groups argue that the water reduction percentages should have been higher.

# # #

Amid extreme heat, California adopts long-term water-saving targets for cities
LA Times | July 9, 2024 | Ian James

Water from the Kern River flows in a canal near Bakersfield. (Gary Coronado / Los Angeles Times)

Welcome to Boiling Point. I'm Ian James, a reporter on The Times' climate team, writing the newsletter this week to fill in for my colleague Sammy Roth.

The blistering heat across California and the West over the last several days has been a stark reminder of how weather extremes are becoming more extreme with the burning of fossil fuels and how this demands a greater focus on adapting to rising temperatures not just today but years into the future.

Just as the heat was building last week, California officials made a major decision that will guide how urban water suppliers adapt between 2025 and 2040. The State Water Resources Control Board adopted regulations that will require suppliers in cities and towns to meet individualized water-use targets and conservation goals.

The targets under the new rules, which were required under 2018 legislation, will vary widely depending on each city's circumstances. As my colleague Hayley Smith reports, Bakersfield will need to cut water use 25% by 2030, while the Los Angeles Department of Water and Power, which has already made significant progress on conservation, is tasked with making an initial reduction of 6% in 2035.

Like other decisions about water policy in California, the years-long process of developing the framework was controversial.

An initial proposal by the state that called for larger savings ran into strong opposition, with managers of many water agencies arguing that the proposed cuts would be costly and difficult to implement. In response, the state water board's staff made revisions, reducing the number of suppliers required to achieve the largest cuts and extending the timeline for water reductions by five years to 2040.

Chelsea Haines of the Assn. of California Water Agencies, which represents more than 470 public agencies, said the new rules will be challenging to meet and will require a "whole statewide effort to change the way that we use water in California." She said the additional five years will be important for achieving the long-term goals.

Leading conservation advocates, however, said the regulation that was adopted falls far short of the goals set by the state Legislature and Gov. Gavin Newsom's water supply strategy. They pointed out that suppliers serving about 72% of Californians do not need to begin reducing water use under the rules until 2035.

Cody Phillips, an attorney for California Coastkeeper Alliance, said the board set "important and effective" long-term conservation targets, but the timeline is too long. He said the framework, formally called "Making Conservation a California Way of Life," should instead be called "Waiting for Conservation to be a Way of Life."

Mark Gold, director of water scarcity solutions for the Natural Resources Defense Council, said he was disappointed with the weakened requirements.

"The regulation does not meet the moment of growing water scarcity in the state of California in a timely manner," Gold told the board. "A strong regulation will exist in 2040, but that's 15 years from now. And there's going to be a heck of a lot of increasing water scarcity during that time."

Joaquin Esquivel, the water board's chair, said the regulation isn't perfect but represents a significant and positive change. He said it moves California in a direction "that we can all be proud of, and that is nation-leading."

# # #

California advances first-in-nation plan to set water budgets for cities statewide
The Hill | July 5, 2024 | Sharon Udasin

California officials have approved a first-of-its-kind regulation that will set long-term limits on the amounts of water the state's urban utilities can use on an annual basis.

The State Water Resources Control Board granted unanimous support Wednesday to sweeping conservation measures that are expected to generate about 500,000 acre-feet in water savings each year by 2040.

The quantity conserved is enough to quench the thirst of more than 1.4 million households on an annual basis, according to the Water Board.

The regulation requires the state's largest suppliers to calculate individual water budgets based on residential indoor and outdoor water use, as well as on commercial, industrial and institutional landscape consumption — monitored via dedicated irrigation meters.

The new rules, which must still receive the final approval of the Office of Administrative Law, are the result of multiple bills passed by the California state Legislature in 2018.

"We have now formalized water conservation as a way of life," Joaquin Esquivel, chair of the Water Board, said in a statement. "The result balances saving water with making sure that suppliers have the flexibility they need to tailor their conservation strategies to local needs and climate."

The resultant budgets, known as “urban water use objectives,” will require compliance beginning in 2027 — and will feature incremental increases in stringency through 2040, per the board.

Water suppliers will be able to adjust their conservation efforts to match their local needs, using tools like outreach, education, leak detection, rebates and the installation of efficient appliances.

The regulation is expected to apply to 405 urban suppliers, which collectively provide water to about 95 percent of California’s population, according to an analysis produced by the Water Board.

Through the resultant conservation measures, utilities are expected to save $6.2 billion from 2025 through 2050, while incurring $4.7 billion in costs, per the analysis. During that same period, the Water Board forecasted total cumulative water savings of about 3.9 million acre-feet.

To meet individual budgetary goals, some of the lower water consumers among the 405 suppliers, such as San Francisco Public Utilities Commission, will not have to make any changes to current consumption practices.

On the other hand, the city of Atwater — located in the San Joaquin Valley agricultural hub — may face reductions of up to 58 percent, according to provisional data issued by the Water Board.

Violations of the regulations will cost cities up to $10,000 for each day in which a breach occurs, per the text of the 2018 legislation.

Water savings from the newly approved regulations are significantly lower than those that appeared in earlier renditions of the rules, which prompted widespread backlash among suppliers.

Nonetheless, California officials touted the measures as much-needed, strategic tools capable of cementing the state’s water security.

“Reaching this milestone goes beyond adopting the first-ever conservation regulation that uses a water budget,” Yana Garcia, California secretary for environmental protection, said in a statement.

“It’s a definitive step toward ensuring California’s long-term resilience to the hotter, drier climate we all are experiencing,” Garcia added.

# # #

California now has mandatory water conservation in urban areas: How will the new rules affect your supplier?
Cal Matters News | July 3, 2024 | Rachel Becker

The measures are substantially weaker than a previous proposal after an onslaught of criticism. But they will still save enough water through 2050 to supply the state's entire population for a year, at a cost of $4.7 billion.

Despite California's perpetual struggles with water shortages, state regulators today adopted mandatory conservation measures that are substantially weaker and save less water than they originally planned.

The rules, years in the making, were mandated by a package of laws that tasked state agencies with making "water conservation a California way of life." They force 405 cities and other urban water suppliers serving about 95% of Californians to meet individualized water budgets that decline over time.

The regulations, adopted unanimously by the State Water Resources Control Board today, usher in a new phase of mandatory conservation for California. They set long-term targets for water use that aim to account for myriad regional differences, from climate to ownership of llamas and other livestock.

The water board's initial proposal — unveiled last year and estimated to cost $13.5 billion at the time — faced an onslaught of criticism from water suppliers and state analysts who called the rules too costly and difficult to achieve. In March, the state water agency revised its proposal to delay enforcement of the conservation targets and extend the timeline for tightening the water budgets based on outdoor residential use.

Individual residents won't be regulated — only suppliers, who must meet their conservation targets or face fines or other penalties. The costs of complying through 2050 are now estimated at $4.7 billion — which is largely expected to be passed onto ratepayers — but water agencies and their customers will also save about $6.2 billion, in large part from buying less water, according to the agency's analysis.
Water board staff estimate that through 2040 the measures will save 1.7 million acre feet — enough to supply almost half the state's population for a year. That's about 73% less than the earlier proposal, which would have saved 6.3 million acre feet through 2040, staff told CalMatters. Through 2050, the savings could reach about 3.9 million acre-feet — more than a year's supply for the state's entire population.

Local water providers told the board that the targets will still be difficult to meet, and warned that the costs could hit low- and fixed-income members of their communities especially hard. They urged the board to provide more technical assistance and funding. Still, many applauded the changes, which they said will soften impacts to customers and communities.

"Water suppliers will need to develop and implement new programs that require long-term customer behavior change and significant investments," Chelsea Haines of the Association of California Water Agencies, which represents more than 450 public agencies, told CalMatters. "It's an unprecedented approach that will require a level of commitment that we've never seen before."

But environmental groups and lawmakers say the weakened rules reduce and delay the water conservation that the drought-plagued state needs.

"Failing to prepare is preparing to fail," said Heather Cooley, director of research at the Pacific Institute, a global water think-tank. "While surface reservoirs are full now, I think there's a tendency to forget about water scarcity and drought."

The new rules are "an unprecedented approach that will require a level of commitment that we've never seen before." CHELSEA HAINES, ASSOCIATION OF CALIFORNIA WATER AGENCIES

The authors of the bills that required mandatory conservation rules — former state Sen. Bob Hertzberg and Assemblymember Laura Friedman from Burbank — said in a March opinion piece that the water board's changes "trample on the hard-won work that's been done so far by allowing water utilities until 2035 or later to implement meaningful reductions."

"The State Water Resources Control Board has decided to kick the can of California's water future down the road at a time when we can least afford such inaction," Friedman told CalMatters after the vote, adding that California must invest more in water efficiency or be forced to spend billions on wastewater recycling and desalination.

Water board Chairman Joaquin Esquivel said “this is not a perfect regulation. We can never have a perfect regulation. But it is a significant one and moves us into a direction here into the future that we can all be proud of — and that is nation-leading.”

“The arc of conservation in this state has been an incredible one. Californians know that conservation is critical,” he said during the meeting. “What this creates is really a floor. And importantly, it’s not a policy in isolation.”

Although the rules were changed multiple times before they came up for a vote today, the fundamental concept remains the same. Each local agency’s water budget is calculated from a combination of standards for indoor and outdoor water use at residences, certain commercial landscapes and losses like leaks. Other factors, such as livestock and recycled water, are also taken into account.

Suppliers must to meet targets through a combination of rebates encouraging thriftier landscapes and appliances, and rate changes penalizing thirstier water users.

A previous, more stringent version of the rule carried the hefty price tag of around $13.5 billion from lost revenues and the costs of funding rebates, infrastructure improvements and other conservation measures. Benefits from having to buy less water or scrounge for expensive new supplies were tallied around $15.6 billion.

At the time, the state’s Legislative Analyst questioned whether the costs were truly worth the benefits. “These doubts are particularly worrisome given we find that suppliers will face notable challenges complying with these requirements,” a January report said.

But water board staff told CalMatters that the staggering costs and elevated benefits were in part due to an accounting error. Combined with policy changes and new data, the latest cost estimate is about $4.7 billion, while the benefits will drop to about $6.2 billion.

“Failing to prepare is preparing to fail…While surface reservoirs are full now, I think there’s a tendency to forget about water scarcity and drought.” HEATHER COOLEY, THE PACIFIC INSTITUTE

Water regulators revised the proposal to delay enforcement of the conservation targets by two years, until 2027, and extend the deadline for ramping down outdoor water use by five years, starting in 2035.

The rules also provide alternatives for the water suppliers that must make substantial cuts. Those required to reduce use by more than 20%, and who serve communities with household incomes below the state median, could cut use by only 1% per year and still comply, provided they meet other requirements. Those facing cuts of more than 30% could cut use by only 2% per year.

More than a third of suppliers serving about 42% of the state's population will not need to change their water use to meet the 2035 standards — up from 18% under a previous version, according to state data. And 31% serving about 12.5 million people will be able to continue their current practices through 2040.

Gov. Gavin Newsom has called for Californians in cities and towns to cut water use by about 500,000 acre-feet a year starting by 2030. Under the new rules, Californians are expected to be saving about 235,000 acre-feet of water a year 20 years later, in 2050.

But a water board analysis reported that, combined with current conservation levels and other efforts, the new rules are "estimated to save levels of water consistent with (Newsom's) goal."

# # #

NOW AVAILABLE: State Water Board relaunches updated water use tracker
Maven's Notebook | June 26, 2024 | State Water Board Agency News

Monthly urban water use data available again online

To spur public awareness and promote water conservation, the State Water Resources Control Board is once again publishing a dataset online that allows water managers, policy makers, the media and the public to monitor how water is used across California's largest urban retail water suppliers.

The comprehensive and up-to-date dataset gleans monthly water use information from more than 400 water systems that serve approximately 95 percent of the state's population. As the data reflect water use trends, the tracker was used to measure progress toward the state's voluntary conservation target from 2021-2022. Users can retrieve monthly data from June 2014 on, and the tracker will be updated going forward in the middle of each month.

Among many functions, the dataset can be sorted to show each reporting water supplier's average amount of water used per person per day and steps suppliers have taken to encourage water conservation. A corresponding dashboard allows users to explore water use trends at a county or individual water supplier level.

Since 2020, the board has required retail suppliers with more than 3,000 service connections or those that supply more than 3,000 acre-feet of water annually to homes and businesses to submit monthly water production and water use reports. Small water suppliers and those that function strictly as wholesalers are not required to submit monthly reporting.

Access to accurate and timely data allows water suppliers to prepare and respond to extreme weather, which is becoming more frequent and intense due to climate change. To learn more about how the state is emphasizing efficient water use and long-term conservation goals, visit the board's Water Conservation Portal.

# # #

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California Supreme Court reverses Public Utilities Commission on water surcharges
The court agreed with a group of water companies that the utilities commission took away a mechanism to protect themselves against sales shortfalls without proper notice.
Courthouse News Service | July 8, 2024 | Edvard Pettersson

The California Supreme Court building in San Francisco. (Maria Dinzeo/Courthouse News)

(CN) — The California Supreme Court on Monday reversed the state's Public Utilities Commission's 2020 order that stopped water companies from using certain surcharges when their revenue falls short because of conservation efforts.

The court agreed with a group of water companies that the commission hadn't clearly informed them that it would consider eliminating the so-called decoupling mechanisms — initially prompted by years of drought and the need to conserve water — in the scoping memos for the yearslong rulemaking proceedings that culminated in the 2020 order.

The scoping memos identify what possible rule changes the commission will be considering, and they give the utilities an opportunity to prepare their arguments and evidence to address them. In this case, the court said, the memos only referred to how to improve water sales forecasting, not to eliminating the decoupling mechanisms.

The two concepts are connected in so far as the decoupling mechanism — intended to remove the utilities' incentive to sell more water — rely on sales forecast. If water sales fall short of the forecasts, the utilities can impose a surcharge on customers in order to meet their operating costs. And if sales exceed the forecasts, the customers get credited.

"The scoping memos gave no signal that the forecasting issue included elimination of the Water Revenue Adjustment Mechanisms and Modified Cost Balancing Accounts — as opposed to, for example, improved forecast methodologies," Associate Justice Leondra Kruger wrote in the unanimous decision.

"The connection between those approaches and questions about how to improve forecasting is simply too attenuated to have given fair notice that the potential elimination of these approaches was within the scope of the proceeding," she said.

Representatives of the commission didn't immediately respond to a request for comment on the ruling.

"We are glad that the California Supreme Court has affirmed the need for notice and an opportunity to be heard on important policy matters in CPUC proceedings," said Joe Karp, an attorney representing the water companies.

The court to some extent signaled its discomfort with the commission's position at the May hearing at which it heard arguments by the Golden State Water Co. and the California-American Water Co., who claimed the commission canceled the decoupling mechanisms without giving them adequate notice.

At that hearing, several of the judges tried to get an answer from the commission as to how the scoping memo for the proceedings, which appeared to focus on the issue of forecasting accuracy, would have alerted utilities to the point that the commission would stop using surcharges.

Darlene Clark, the commission's lawyer, told the court that the parties were well-versed in the rule-making proceedings before the commission, and there is a general body of knowledge regarding what happens in the proceedings as a result of this interactive relationship between the commission and the utilities.

That explanation didn't sit well with Associate Justice Carol Corrigan, who observed that it seemed to defeat the purpose of having a scoping memo in the first place to make the utilities aware of what issues are on the table.

"I'm understanding your argument to be, 'Oh yeah, a scoping memo is what it says, but everybody really knows that there is more to it,'" Corrigan said. "That seems like a very loosey-goosey way of going about this."

According to the commission's response to the utilities petition to overturn its decision, the decoupling mechanisms, or revenue adjustment mechanisms, were a pilot program it created "to sever the relationship between sales and revenue to remove any disincentive for the utility to implement conservation rates and programs."

Not all California water utilities use the surcharges to make up the difference between projected and actual revenue.

However, according to the state utilities commission, these surcharges can also result in undesirable consequences, such as reducing the utilities' incentive to control costs, and shifting their business risks away from investors and onto customers.

This can happen, the commission argues, when actual sales are less than forecast sales during a rainy year in which customers require less water for landscaping or during an economic downturn, as customers limit water use to reduce expenditures and companies are going out of business.

The commission also said that the challenge before the California Supreme Court had been made moot by a 2022 state law meant "to ensure that water corporations are authorized to establish revenue adjustment mechanisms that provide for a full decoupling of sales and revenue in order to further incentivize water conservation efforts."

Although the court conceded that the practical differences between what the new legislation provides and what the water companies were asking for in the legal proceeding might be limited, Kruger said the state's top court could still decide a case on the merits when, as here, "the public interest favors resolution of an important question."

# # #

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New law pressures California water agencies to meet 2040 goals
Bay City News | July 4, 2024 | Ruth Dusseault


Getty Images

The California State Water Resources Control Board approved a new regulation Wednesday that places conservation requirements on the state's largest water utilities, urban retail water suppliers that serve 95% of California residents.

Under the new law, there will be a gradual reduction of the amount of water that each of the state's 402 urban retail water agencies can use between 2027 and 2040. The law does not apply to individuals or households.

Each water supply agency must establish a water budget. Then they must implement commercial, institutional and industrial performance measures. Finally, they must submit regular reports to the Water Board.

Water agencies have flexibility to tailor their conservation strategies around their local needs and climate. Potential penalties for non-compliance could result in the Water Board issuing a civil liability of up to $10,000 on the water agencies. However, the policy is loaded with guidance, best management practices and advisory services to help agencies meet their conservation objectives.

With pressure to avoid rate increases, water suppliers will be encouraging less indoor and outdoor residential water use. They will be aiming for reductions in water for commercial, industrial and institutional landscapes with dedicated irrigation meters. There will be an increase in education and outreach, leak detection, rebates, and direct installation of efficient appliances or landscapes. Big green front lawns will not be the trend in California's future.

"This is the first regulation in the country to use a water budget to promote conservation," Nick Cahill, a spokesperson for the Water Board, said in a statement Wednesday. "Actions already underway by suppliers, businesses and residents, combined with the regulation are expected to produce about 500,000 acre-feet of water savings annually by 2040 -- enough to supply more than 1.4 million households for a year," said Cahill.

The complex law considers special circumstances.

Water supplier may request variances, or additional water budgets, for unique and significant uses of water, such as uses associated with horses and other livestock, supplementing ponds or lakes that sustain wildlife, evaporative coolers, and irrigating existing trees.

The law includes a bonus for water recycling and a budget variance for watering existing trees. It incentivizes planting new, climate-ready trees. Many disadvantaged communities will have an alternative compliance pathway.

The instigation for the new regulation came in the 2018 Legislature, after the mega-drought that lasted from 2011 to 2017. Gov. Jerry Brown signed Senate Bill 606, which requires the Water Board and the state Department of Water Resources to adopt water efficiency regulations and outline requirements for water suppliers, with specific penalties for violations.

"The goal is to use water wisely and efficiently on a long-term basis. So that when there is a drought, we're not in a reactive mode," said Chelsea Haines, regulatory relations manager for the Association of California Water Agencies, which has participated in several years of workshops around the new law.

"We've had these governor executive orders that have called for emergency response and a one size fits all approach -- hey, everybody, cut your water use by 20%. So this is trying to create more of a long-term framework on how we can be better prepared for drought," Haines said. "This is trying to create a more customized approach that takes into account efficiency and local conditions and planning, so that we're better prepared for what we know will be more frequent and prolonged periods of drought with climate change."

The law falls in line with Gov. Gavin Newsom's Water Supply Strategy to address the 10% water supply shortfall anticipated by 2040 due to hotter and drier weather conditions. That plan calls for agencies to diversify the number of water sources they use, including water recycling and conservation measures.

"This is not a perfect regulation," said Water Board chair Joaquin Esquivel after the unanimous vote on Wednesday. "We can never have a perfect regulation, but it is a significant one and moves us into a direction here into the future that we can all be proud of and that is nation-leading."

The regulation is expected to be in effect by Jan. 1, 2025.

# # #

California to impose first-ever permanent water restrictions on cities and towns
San Francisco Chronicle | July 3, 2024| Kurtis Alexander

California water regulators approved permanent water restrictions for cities and towns in an effort to shore up the state's water supplies. As pictured above, Sutter Slough winds through farmland in the Sacramento-San Joaquin River Delta, where much of the state's supplies come from.
© Paul Chinn, The Chronicle

After a decade that saw two major droughts, and with more dry times inevitable, California is imposing permanent water restrictions on cities and towns for the first time in state history.

The powerful State Water Resources Control Board on Wednesday approved a long-debated policy that will require hundreds of urban water suppliers to reduce the amount of water they provide over the next 15 years.

As soon as 2027, some suppliers will have to cut back deliveries upwards of 30%, which means finding ways for their customers to use less water — either by imposing restrictions, incentivizing savings by raising rates, or boosting efficiency by encouraging low-flow appliances. Suppliers can do whatever they want to tamp down water use, but if they don't, they face state fines of up to $10,000 a day.

The mandated permanent reductions, meant to better prepare California for a drier future, are tailored specifically to communities and their individual needs. The cuts are based on a formula that weighs several factors, including the area's past water consumption, climate and land use. The level of cuts projected for each water agency could change before the regulation takes effect, and suppliers will have the opportunity to apply for variances when they have unique circumstances, such as uncounted seasonal residents using more water.

Most suppliers in the Bay Area will see little or no required cuts because water use in the region has historically been low. This is due largely to the moderate climate and limited landscaping, which requires less water. There are exceptions, however. The Woodside-Atherton-Portola Valley area, Discovery Bay, Pittsburg, Martinez and Livermore face significant reductions, all above 10% by 2040, when the gradually implemented reductions take full effect.
"Conservation is a critical part of California's strategy to adapt to a hotter, drier future," said Joaquin Esquivel, chair of the state water board, which worked with the Department of Water Resources to develop the regulation. "Our climate has changed. Our uses should match the hydrology that we're now facing."

With the state water board's unanimous vote to approve the regulation, it heads to the state Office of Administrative Law for official adoption. The rules are expected to take effect Jan. 1. Water suppliers will be required to make a first round of cuts by 2027 with additional cuts mandated in 2030, 2035 and 2040.

By 2040, the regulation is projected to generate a cumulative savings of 500,000-acre feet of water a year, which is enough to supply more than 1 million households.

Called "Making Water Conservation a California Way of Life," the policy is intended to decrease statewide water use on a permanent basis so reductions during drought times don't have to be as severe. The regulation is prompted by legislation signed by former Gov. Jerry Brown in 2018 after a five-year drought resulted in painful water restrictions — and often steep fines — for many Californians.

The new policy has been contentious. When the state water board drafted the first iteration of the regulation last year, water agencies widely criticized how quickly they'd have to make the cuts and how much they would cost. Suppliers will lose money largely because they will sell less water and have to promote water efficiency, notably by giving costly rebates to customers to encourage purchases of water-saving appliances.

Regulators have since added extra time for suppliers to comply and updated the estimated costs. Originally $13.5 billion through 2040, the new price tag is $4.7 billion through 2050. State officials said the dramatic difference in cost is due not only to changes in the policy but refinement of their modeling and errors in their initial calculations.

The final draft, officials said, would yield benefits of $6.2 billion, which is primarily the result of having to source less water, meaning there would be a net gain for water suppliers.

Still, many agencies don't see it this way.

Paul Helliker, general manager of the Sacramento area's San Juan Water District, noted at Wednesday's board hearing that poorer inland communities were being saddled with the biggest water reductions and hence faced huge challenges.

Of the suppliers serving at least 10,000 people, the five with the largest required cuts are all in the San Joaquin Valley. These include the city of Atwater, Oildale Mutual Water Company, city of Kingsburg, West Kern Water District and Vaughn Water Company. The cuts for these suppliers range from 45% to 58%, compared to their recent use, by 2040.

By contrast, the San Francisco Public Utilities Commission would face no reductions, and the East Bay Municipal Utility District would face a cut of 3% compared to recent use by 2040.

The final iteration of the policy has changed only slightly since the draft in March, which gave water suppliers greater wiggle room than first proposed. Most of the new changes had to do with allowing more water to be used in communities with more trees.

Some environmental groups said the final rules should have gone further to reduce water use given the expected shortages in the future. The Department of Water Resources projects a 10% decline in supplies by 2040 because of climate change. Supplies will likely continue to dwindle after that.

"The regulation does not meet the moment of growing water scarcity in California," said Mark Gold, director of water scarcity solutions and environmental health for the Natural Resources Defense Council. "A strong regulation will exist in 2040, but that's 15 years from now and there's going to be a heck of a lot of water scarcity over that period."

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Statewide Long-Term Water Supply Expansion Bill Passes Assembly Committee
Gov. Newsom has put into place multiple climate-related targets, but hasn't put a water target into place
California Globe | June 26, 2024 | Evan Symon


Senator Anna M. Caballero. (Kevin Sanders for California Globe)

A bill that would establish long-term water supply targets for California, as well as creating a financing plan and having state authorities work with local water authorities to achieve water supply expansions, was passed in the Assembly Water, Parks, and Wildlife Committee on Tuesday by a 13-0 unanimous vote.

Senate Bill 366, authored by Senator Anna Caballero (D-Merced), would specifically revise and recast certain provisions regarding The California Water Plan to, among other things, require the Department of Water Resources to instead establish a stakeholder advisory committee and to expand the membership of the committee to include tribes, labor, and environmental justice interests. The bill would also require the department to coordinate with the California Water Commission, the State Water Resources Control Board, other state and federal agencies as appropriate, and the stakeholder advisory committee to develop a comprehensive plan for addressing the state's water needs and meeting specified long-term water supply targets established by the bill for purposes of The California Water Plan.

In addition, SB 366, also known as the California Water for All initiative, would require the plan to provide recommendations and strategies to ensure enough water supply for all designated beneficial use, as well as include specified components, including a discussion of various strategies that may be pursued in order to meet the water supply targets, a discussion of agricultural water needs, and an analysis of the costs and benefits of achieving the water supply

targets. The bill would also require the department to submit to the Legislature an annual report between updates to the plan that includes progress made toward meeting the water supply targets once established.

In terms of actual numbers, SB 366 would set an interim target of 10 million acre-feet of additional water by 2040, while the Department of Water Resources would develop long-term targets for 2050.

Senator Caballero wrote the bill because California has no statewide target or goal for a sustainable water supply. In an op-ed published in multiple outlets earlier this week, Senator Caballero specifically noted how Governor Gavin Newsom has put into place multiple climate-related targets, such as the 2035 ban on the sale of gas-powered cars in California, but hasn't put a water target into place despite a growing need to expand California's water supply. She also noted how the current system had been stretched thin earlier this decade when the mega drought affected virtually all of the state, with the current system designed for far few residents.

No opposition against SB 366

"Despite decades of work to improve California's water system, our infrastructure remains inadequate to meet present needs and is woefully unprepared to meet future needs," said Senator Caballero earlier this year. "The targets set in place by SB 366 would create new accountability and effectively generate a commitment from the State, the water community, and stakeholders to follow through on comprehensive, long-term water supply solutions that will transform water management for generations to come.

"While recent storms have been helpful, a combination of factors, including the driest three-year period in 1,200 years, an aging infrastructure, a growing population and economy, antiquated state policies, and climate change, have created a challenge that threatens the survival of some communities and sectors of the economy and jobs. This year's storms will not resolve years of drought and have further illustrated aspects of our water supply infrastructure that are critically flawed and incapable of delivering contractual water supplies in times of abundance.

"If enacted, SB 366 would establish long-term water supply targets for the State to achieve, require a financing plan, and would update the requirement that state agencies develop a plan to achieve those targets, in consultation with local water agencies, wastewater service providers and other stakeholders."

With the state water supply being a major concern for both parties in the state, as well as nearly every region regardless of being rural or urban, SB 366 received bipartisan support upon being written earlier this year. This was was especially seen by the high number of co-authors, which includes Senator Richard Roth (D-Riverside), Senator Rosilicie Ochoa Bogh (R-Yucaipa), and Senator Kelly Seyarto (R-Murrieta). Since being introduced, SB 366 has unanimously passed every vote, including getting a rare 40-0 vote with no abstentions in the Senate last month.

This led to the Assembly Water, Parks, and Wildlife Committee on Tuesday. While it did record two abstentions, the bill nonetheless passed 13-0, boding well for an ultimate passage and signing by Governor Newsom later this year.

“Increased water storage capacity is a big issue for all sides, regardless of party or geographic location of the lawmakers,” Dana, a Capitol staffer told the Globe on Wednesday. “Cities and other urban areas need water for larger populations. And for rural areas, farms need water to keep crops growing. Areas with state and national parks also need water to sustain wildlife and flora. Water supply is critical.”

“This is why SB 366 is coasting right on through with everyone on board. It’s something truly needed in the state. And, unlike a lot of other policies, the dates are quite reasonable and achievable, especially with so many cities and counties and state agencies already working feverishly to up capacities. There’s a lot of really divisive bills this year, so it’s always nice to see bills that are truly bipartisan.”

SB 366 is expected to be heard next in the Assembly Appropriations Committee this August.

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San Francisco Chronicle

OPINION//OPEN FORUM

San Franciscans: Brace yourselves for skyrocketing water and sewer rates, too

Utility revenues were long used to subsidize general city services rather than maintain and upgrade water and wastewater systems. That bill is about to come due

By Peter Drekmeier
July 9, 2024

Hetch Hetchy Reservoir in Yosemite National Park supplies most of the water for San Francisco. The city Public Utilities Commission is planning costly programs for severe droughts and increased demand that may not come to fruition.
Carlos Avila Gonzalez/The Chronicle 2023

San Franciscans: Brace yourselves for skyrocketing utility rates. Combined water and sewer bills will increase by 8% annually, tripling over the next 20 years. Hetch Hetchy customers outside of San Francisco will get hit hard, too, and the situation is likely to get much worse.

The current rate crisis is the result of decades of deferred maintenance, and the failure to recognize and adapt to changing water use patterns. Over many years, utility revenues were used to subsidize general city services rather than to maintain and upgrade the Hetch Hetchy Water System and wastewater infrastructure. At the same time, per capita water use declined and population growth slowed, reducing revenues. The San Francisco Public Utilities Commission is now playing catch-up on a massive infrastructure backlog.

In 2008, the commission launched a Water System Improvement Program that included more than 80 major infrastructure projects to ensure water would continue to flow from the Sierra to the Bay Area after a major earthquake. The cost was $4.8 billion, plus 30 years of debt service. Water rates more than tripled to pay for these investments, sending a strong price signal to consumers to use water wisely, driving down demand. In 2018, water demand was 30% lower than projected.

Now it's time to upgrade San Francisco's aging sewer system — much of it more than 100 years old — at an even greater cost. The problem of raw sewage releases into creeks, the bay and the Pacific Ocean has gotten so bad that the Environmental Protection Agency, California Regional Water Quality Control Board and San Francisco Baykeeper have all sued the city for failing to act.

The problem with selling less water than expected (which also leads to reduced wastewater revenue) is that fixed costs to operate and maintain the water and sewer systems remain the same, so rates must increase to cover those costs. Higher rates trigger more conservation, leading to even greater rate increases, and the cycle continues. This dilemma is known as a financial death spiral, and the San Francisco Public Utilities Commission is mired in one of the worst.

Having failed to build up a cash reserve for infrastructure upgrades, the commission has been forced to take on high debt. By 2047, the commission's annual debt service alone will be greater than last year's entire budget. According to the city's Budget and Legislative Analyst, "Debt service for the proposed $3.05 billion in Water, Wastewater and Power bonds (just in the next two years) over 30 years is approximately $221.5 million (per year), over $6.6 billion in total debt service."

Here's how the problem could get a whole lot worse. The commission recently released an Alternative Water Supply Plan that suggests it might need to develop $17 billion to $25 billion worth of recycled water and other alternative supplies. This would double its budget (and rates). The commission is basing this plan on three flawed assumptions.

First, they are planning for a hypothetical 8½-year mega-drought — far beyond the most conservative planning scenario used anywhere else in California. This "Design Drought" might be expected once in 25,000 years, according to an internal commission document obtained through a Public Records Act request. In 2022, based on the Design Drought, the commission imposed a drought surcharge on city ratepayers even though there was never less than four years' worth of water in Public Utilities Commission reservoirs during that drought.

Second, the commission is planning for water demand to increase significantly despite the decline during the past three decades. Current demand is half what projections in the 1980s suggested it would be today. Despite population growth, the three lowest years of demandover the past half-century all occurred in the past decade.

Third, the commission bases demand projections on Plan Bay Area, a blueprint for growth sponsored by the Association of Bay Area Governments. The plan assumes that 2 million more people will live in the Bay Area by 2050. The California Department of Finance (the standard-bearer for population growth projections) expects the population of California to remain relatively flat for the foreseeable future.

Reforming the Design Drought and demand projections would provide the additional benefit of enabling the commission to improve flows in the Tuolumne River (the source of Hetch Hetchy water), providing ecological and water quality benefits to the Sacramento-San Joaquin River Delta and the bay. The Tuolumne's salmon population is currently worse than in any other river in the Central Valley.

Unlike other major public utilities, San Francisco's commissioners are appointed, making them less accountable to the public. They don't seem to grasp just how dire the financial situation is.

Our best hope for reining in future out-of-control rate increases is to engage the city's Board of Supervisors. It approves the Public Utilities Commission budget and should condition its consent on an independent audit of the agency. By adopting a reasonable drought planning scenario and using realistic water demand projections, future rate increases could be reduced dramatically. With budget decisions imminent, time is of the essence. Please make your voice heard.

Peter Drekmeier is a former mayor of Palo Alto and serves as policy director for the Tuolumne River Trust.

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