

CALIFORNIA

WATER

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SCAN FOR
DIGITAL EDITION

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The Drought Is Back

It's hard to believe California was facing one of the worst droughts in its history just a few years ago. The state has since made tremendous strides in water conservation and supply management. But now the drought is back, and it's worse than ever.

Social scientists use “disaster fatigue” to describe a form of emotional exhaustion that shapes what we do when faced with multiple emergencies or disasters. And many researchers agree: the past two years have been hard on many Californians with wildfires, drought, and COVID-19. Disaster fatigue may indeed have set in, making it hard for many of us to fully grasp the severity of the drought and take action to save water.

But we must try. I've worked in water for decades, and I have never seen water planners and managers this worried about what is on the horizon for our region. With this drought's severity, we are starting to see the impacts of climate change in real-time. Saving water now may hold off dire consequences in the future.

In preparing for this issue, I have been amazed by the forward-thinking work done by so many community and water leaders to help stretch limited supplies through water recycling and reuse, stormwater capture, groundwater cleanup, and desalination. These efforts are critical to building water supply resiliency from the impacts of climate change, earthquakes, droughts, aging infrastructure and more. There is much work to be done, but progress is happening.

Your interest in what's happening with Southern California's water supply is greatly appreciated and I hope you will join us in saving water as well as in our efforts to address California's water issues.

Please connect with us on Facebook or Instagram, where you'll find us under the username socialwater. We will love to hear from you!

Charley Wilson
Executive Director

The Southern California Water Coalition is a nonprofit, nonpartisan public education partnership dedicated to informing Southern Californians about our water needs and our state's water resources.



Above, Diamond Valley Lake in Hemet, built by Metropolitan, provides water storage close to home. Water agencies offer turf replacement rebates to encourage residents to plant drought-tolerant landscapes, as shown at right. Photos Courtesy of Metropolitan

Climate Change Drives Weather Extremes

By Elizabeth Smilor
Special Sections Writer

Mother Nature has not been easy on Californians lately.

Wildfires have scorched millions of acres, an extended drought is draining our reservoirs, Sierra snowpack is well below average and climate change science tells us it will only get worse.

Coupled with the pandemic, it's no surprise if helplessness causes us to throw up our hands in despair when we hear we're not conserving enough water. With water still flowing freely from most of our taps, it's hard to feel like this drought is severe. But it is.

The good news is regional water managers, some featured in this section, are preparing for the worst-case scenario so that water still flows from your faucet. Gov. Gavin Newsom has asked urban water suppliers to activate “level 2” of their water shortage contingency plans, which means businesses and residents will be asked to take conservation up a notch.

“We can't just wait for the rain to come,” said Metropolitan Water District of Southern California General Manager Adel Hagekhalil. “What we need to do is take bold, strategic actions today to adapt to this future.”

Drought is defined as a prolonged period of water shortage. This drought has been characterized as a meteorological, hydrological and agricultural one, meaning the state has had below average rainfall which has affected streamflow and reservoir levels as well as food production due to a lack of soil moisture.

What makes this drought different? The simple answer is climate change.

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For comments or questions, email Sean Fitzgerald at Sean@VoxCivic.com.



URBAN WATER CONSERVATION

While urban water use accounts for 10 percent of the state's overall use, it is still important to save every drop. Half of urban water use is for outdoor landscaping, so outside is a good place to start. The state Department of Water Resources is granting Metropolitan \$2 million for its regional turf replacement program. Metropolitan offers residents a \$2-per-square-foot rebate for lawn replacement, but regional agencies might offer more. For indoor use, check for rebates from your water agency for low-flow showerheads and toilets, and water-efficient appliances.

Other home conservation tips:

- Check for leaks, inside and out. If your water bill seems high, request a leak audit.
- Take shorter showers.
- Turn off water while brushing teeth and shaving.
- Wash only full loads of dishes and clothes, and don't run faucet constantly when hand washing.
- Water your garden less often and then only during cool parts of the day.
- Put a layer of mulch over plants and trees.

The water years, from Oct. 1 through Sept 30, of 2020 and 2021 were the driest consecutive years on record for rainfall in California. December storms stirred optimism, but dry conditions returned at the start of this year and as of the end of March nearly all of the state is in severe or extreme drought, according to the National Integrated Drought Information Center (drought.gov).

"We are experiencing climate change whiplash in real time with extreme swings between wet and dry conditions. That means adjusting quickly based on the data and the science," said California Department of Water Resources (DWR) Director Karla Nemeth. "While we had hoped for more rain and snow, DWR has been preparing for a third consecutive year of drought since October."

A recent study published in the journal *Nature Climate Change* that analyzed tree rings to determine that the American West is in the worst megadrought in 1,200 years, found that human-caused climate change is responsible for about 42 percent of the soil moisture deficit since 2000.

"Without climate change, the past 22 years would have probably still been the driest period in 300 years," said UCLA geographer Park Williams, the lead author of the study. "But it wouldn't be holding a candle to the megadroughts of the 1500s, 1200s or 1100s."

Where Southern California's Water Comes From

On average, water use in California is 50 percent environmental, 40 percent agricultural and 10 percent urban, according to the Public Policy Institute of California.

"While we have made historic investments to protect our communities, economy and ecosystems from the worsening drought across the West, it is clear we need to do more," said Gov. Newsom, in announcing the revised guidelines that could set day or time limits on watering in residential areas and ban watering ornamental grass on commercial properties. "Amid climate-driven extremes in weather, we must all continue to do our part and make water conservation a way of life."

About 30 percent of Southern California's urban water comes from the State Water Project, a system of reservoirs and canals that carry water from Northern California to regional water agencies. Another 25 percent is imported from the Colorado River Basin, which supplies water to seven U.S. and Mexican states and 29 federally recognized tribes with approximately 40 million people. Both of these sources are compromised by record-setting drought.

"What we're seeing now is a strain on both systems. We haven't seen this before where both the Colorado River system and the State Water Project are strained," said Hagekhalil. "It's a wake-up call for all of us."

A cooperative of 26 member agencies, Metropolitan provides more than half the water used by 19 million people in six Southern California counties. Some areas are more dependent upon water from the State Water Project than others and with both systems under stress, redistribution becomes more difficult.

"The water playbook that we've used for 100 years, can't be used anymore. said Metropolitan's Hagekhalil. "The new chapter in the playbook is you recycle every drop and store it, and when you have heavy rain, you can move it and put it both underground and above ground."

The other half of Southern California's water is locally sourced from stormwater capture, groundwater basins and recycled water. Metropolitan built Diamond Valley Lake in Hemet, which opened in 2003, to create more storage capacity close to home.

"That project is saving us with 800,000 acre-feet of storage," said Hagekhalil of Diamond Valley. "We need more large projects to store water in wet years so it is available."

Orange County's Groundwater Replenishment System, a joint collaboration of Orange County Water District (OCWD) and OC San, is the world's largest water purification system for indirect potable reuse. The GWRS can produce up to 100 million gallons of water per day of near-distilled, high-quality water. That is enough to meet the needs of nearly 850,000 residents in north and central Orange County.

Water managers agree a reliable water future requires investment in local, regional and state infrastructure, innovation in recycling water, groundwater protection, storage and conservation. Reaching that future will require cooperation amongst all water users and managers.

"Metropolitan is what it is because of the member agencies, and was created to facilitate this coordination because no one can do things alone and nobody should. Our strength is in our collaboration and our working together," said Hagekhalil. "My commitment is to continue working for all our member agencies and make sure no one is left behind. We take care of our communities and make sure every community has the water they need." ○



Orange County Students Learn the Value of Water Through Environmental Literacy

Over the past several years, the Municipal Water District of Orange County's (MWDOC) investment in K-14 water education has grown substantially, evolving to include programs and hands-on learning activities for all Orange County students deeply rooted in environmental literacy. Using the local environment as the context for learning, students gain practical knowledge about the world around them by investigating, asking questions, and finding solutions to issues affecting their communities. From drought, earthquakes, erosion, and wildfires to aging infrastructure and dwindling resources, leaders of tomorrow become better equipped for the responsibility of lifelong environmental and community stewardship and develop the skills needed to find reasonable solutions to real-world problems.

Each year, nearly 70,000 students in grades K-12 participate in the MWDOC Choice School Programs presented by Shows That Teach and the Orange County Department of Education's Inside the Outdoors. Through active involvement, students learn about their local water supply sources, the critical need for good water stewardship and conservation, and water providers' challenges each day to deliver clean, safe, reliable water to homes, schools, and businesses. Orange County water providers opt-in to the MWDOC Choice School Programs to bring dynamic, water-centric learning experiences to K-12 students in their service areas. These programs inspire the county's youngest water users to make thoughtful, informed decisions to protect the natural resources we depend on every day. Programs are offered in-person, online, and a combination of both.

Paving the Way for the Next Generation of Water and Energy Workers

In 2020, MWDOC assumed leadership of the Water Energy Education Alliance (WEEA or Alliance). WEEA was formed in 2018 to establish partnerships between education and industry leaders looking to build and strengthen career pathways to water and energy jobs for Southern California high school students. The Alliance has grown significantly under MWDOC's leadership. It is now a collation of nearly 60 professional organizations from Los Angeles, Inland Empire, Orange County, and San Diego that include water and energy providers, departments of education, school districts, colleges, technical trade schools, and more.

As California braces for a wave of expected retirements from the last of the Baby Boomers, WEEA has mobilized to find solutions for the gaps that will be left by the industry professionals that have proudly served California communities for decades. Water workers are offered competitive wages, great benefits, and long-term stability and are instilled with a sense

of pride, serving their communities and contributing to a green economy. Developing new workforce pathways benefits industry and educational institutions, as well as young students and their future families.

WEEA is sponsored by the Metropolitan Water District of Southern California, Los Angeles Department of Water & Power, Moulton Niguel Water District, Water Replenishment District of Southern California, and the Western Municipal Water District, with active support from the California Environmental Education Foundation, California Community Colleges, and Big Picture Learning. ○



MWDOC SPEAKERS BUREAU

Have questions about water? We have answers!

Is your community, business, or civic group looking for a keynote speaker for your next event? The Municipal Water District of Orange County's Speakers Bureau is here for you. Topics may include: where Orange County water comes from, drought, water supply solutions, water conservation programs, education initiatives for Orange County students, and more!

For more information visit
www.mwdoc.com/water-education/book-a-speaker/

Water Is Life

To Keep It Flowing We Must Invest More

Water is life. The last few years have only highlighted the importance of water as increased handwashing and another extended drought continued to persist in our realities. As we continue to weather the societal and economic impacts of the pandemic and recent global events, the rising cost of goods and services poses a challenge for many.

Affordability and equitable access to clean water and sanitation for all are encapsulated in the United Nation's Sustainable Development Goals (as SDG 6), and it's a critical priority for water utilities across the state. As we continue to realize the impacts of climate change over the years and make investments to ensure sustainable and reliable water supplies for the future, we are constantly balancing the costs of these investments with affordability and access to water.



With the last historic drought in California, much of our community realized how much of an impact water use efficiency and conservation (particularly outdoors) can help make a difference. We also recognized how challenging it could be to convey nuanced messaging – while turning off all outdoor watering often did more harm than good, dialing back the outdoor irrigation to avoid overwatering resulted in positive impacts to reducing runoff while limiting water waste.

At the Municipal Water District of Orange County (MWDOC), we've taken a multi-faceted approach to everything from public outreach and education to water resource planning. We have Ricky the Raindrop, who's been around since the 1970s, to strategic partnerships across the state to further water education for all ages. We provide water use efficiency rebates for residential and commercial water users and even landscape designs that feature beautiful, colorful, and lush California native plants that are part of the 806 native species found in our local biodiversity hotspot. Our team proactively advocates for sound, meaningful legislation that aligns with the policy principles set forth by our board of directors to ensure high-quality, safe, sustainable, and affordable drinking water for all for now and the future.

Orange County already utilizes a robust portfolio of water supplies from Indirect Potable Reuse (IPR), better known as water recycling or

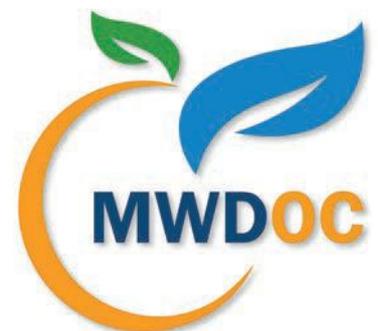
'purple pipe,' to brackish water desalination. Still, with climate change and a growing population, we will face regular water shortages without new investments in Southern California water, either imported or local.

This is why the MWDOC Board of Directors emphatically supports the Doheny Ocean Desalination Project -- an undertaking that would create a local and drought-proof water supply utilizing environmentally-friendly slant well technology that is fully compliant with the California Ocean Plan Desalination Amendment, which is intended to protect the beautiful coastline that we all cherish as one of our state's greatest jewels. MWDOC's 2018 Orange County Reliability Study deemed the Doheny Project one of the most cost-effective investments to meet system and supply reliability needs. The report prescribes the Doheny Project with the San Juan Watershed Project as the core reliability improvement strategy for South Orange County.

When it comes to affordability, nothing supplants reinforcing the conveyance of our supplies from the Delta. About half of the water used throughout Orange County comes from imported supplies. MWDOC's 2018 Reliability Study designated the Delta Conveyance Project (DCP) the single most cost-effective project for long-term water supply reliability. Some may argue that inflation has eschewed the project's economics; when you consider the economies of scale, the DCP is still the most affordable way to ensure water flows reliably throughout the state. Desalination, recycling, storage, and other local projects are certainly part of the blueprint for long-term reliability. Without completion of the DCP, these options will not guarantee sufficient supplies.

Our future is bright. We will ensure a great future with continued investments into the development of the next generation of water stewards through our education and outreach programs and a sustainable, reliable, and affordable water supply portfolio that addresses the diverse needs and challenges throughout our beloved community. As we say, water is life, and as the lifeblood of our community, economy, and environment, it's our most precious resource that we're committed to protecting and preserving for generations to come. ○

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MWDOC Board President
Division 7



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The Sites Reservoir Project will be situated on the west side of the Sacramento Valley, approximately 10 miles west of Maxwell, Calif., in Glenn and Colusa Counties.

Inset: Existing Infrastructure Fish Screens



Sites Reservoir

Is a Solution to California's Megadrought

When it comes to water, California continues to break records, and not the kind we like to brag about. According to a recent study by Nature Climate Change, the West Coast's drought **has worsened so much in one year**, that it is now the driest in at least 1,200 years and is a worst-case climate change scenario playing out live. In fact, it's being labeled as a "megadrought."

With January through March 2022 turning out to be the driest months on record, many water suppliers are leaning more on their stored water supplies.

In many ways, Sites is exactly what a state burdened by droughts and atmospheric rivers needs. Sites would capture and store water from the Sacramento River during high flows without hurting the river fishery — after all other water rights and regulatory requirements are met — and is made available to California's environment, communities, and farms when it's most needed — especially during times of drought. But Sites Reservoir is just part of the solution — we can and must utilize all the tools in our toolbox — recycling, conservation, desalination, groundwater replenishment, and more yes, more water storage.

Sites Reservoir does not dam any major river. The reservoir would be located off-stream and be situated in the Glenn and Colusa counties. Sites is designed to help the environment, not cause harm. And a large portion of the water saved in Sites is specifically set aside for fisheries and the environment during dry years. This is a first of its kind and a model for successful future water management.

If Sites had been in place prior to 2021, we could have captured and stored much of the excess prior years flood flows for use in what was a very dry year, and California would have had an additional 1 million acre-feet of water available

for use during 2021 when we it was badly needed. And a good portion of that water would have been held over for use in 2022 which is an equally bad or worse water year.

In summation, Sites can best be described as an insurance policy. And if the scientific projections are correct about the impacts of climate change, then having Sites Reservoir will mean we will be able to collect even more water in the reservoir for use during future extended droughts.

The Sites Authority is advancing Sites Reservoir because it's needed for the Sac Valley. And we're proud the project is supported by local water agencies, irrigation districts, and municipalities across California. We're also proud to have the State and Federal government investing in the project. This is a beneficiary pays project which is how future large water infrastructure will need to be implemented. Sites would cover the diverse needs of the entire state, and importantly, the foundation starts with support of local participants right in the proposed project area's backyard.

It's critical that we continue to invest in a broad range of solutions to ensure a resilient water future, and Sites Reservoir would increase water storage, help alleviate symptoms, and address the impacts of a megadrought. It's time to build Sites now. ○



www.sitesproject.org



Doheny Desalination Project Conceptual Renderings



Building a Fourth Aqueduct to Preserve our Quality of Life

The mission of the South Coast Water District (SCWD) is to provide available and affordable water for our customers while protecting our environment. Our magnificent beaches and coastline, combined with what many refer to as the best climate in the world, helps draw two million-plus visitors to our area annually.

For many decades, Southern California has gotten its water from three sources – the Los Angeles Aqueduct (which serves the City of Los Angeles), the California Aqueduct, and the Colorado River Water Aqueduct. The California and Colorado River Aqueduct serve Southern California and other regions.

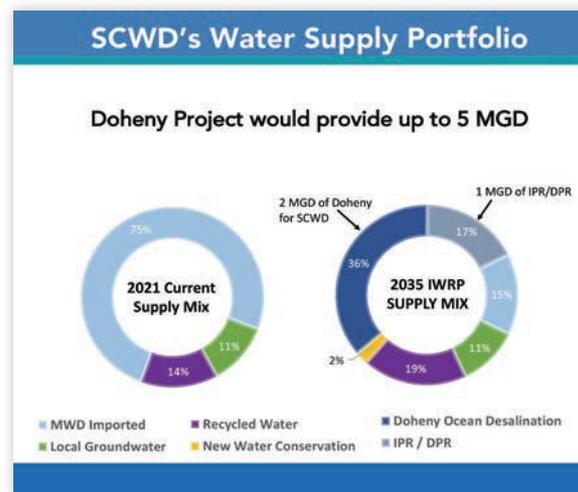
Cities pull in water from the groundwater basin managed by OCWD, where it is treated extensively, mixed with Santa Ana River water and further filtered through natural processes. Thanks to this resource, north and central Orange County receives 75 percent groundwater and just 25 percent via the Metropolitan Water District (MWD).

Unlike north and central Orange County, south County does not have a true and robust groundwater basin. Hence, roughly 90 percent of south Orange County relies on MWD to provide imported water.

SCWD (and MWDOC) has spent nearly two decades analyzing the feasibility of ocean desalination and, after multiple intensive studies and cost analyses, the SCWD Board believes a “fourth aqueduct” is how we may best meet our customers’ needs. Rather than a physical pipeline, though, it is a combination of efforts to ensure we have an affordable, clean, high-quality, safe, and local water supply.

SCWD has embraced a “one water” approach to a diversified water portfolio:

1. **Doheny Desal** – Our proposed ocean desalination facility is an essential element we can and should develop to meet our customers’ needs.
2. **Conservation** – Continued water efficiency levels of roughly 20 percent since 2013, the equivalent water use of 3,000 single family homes.



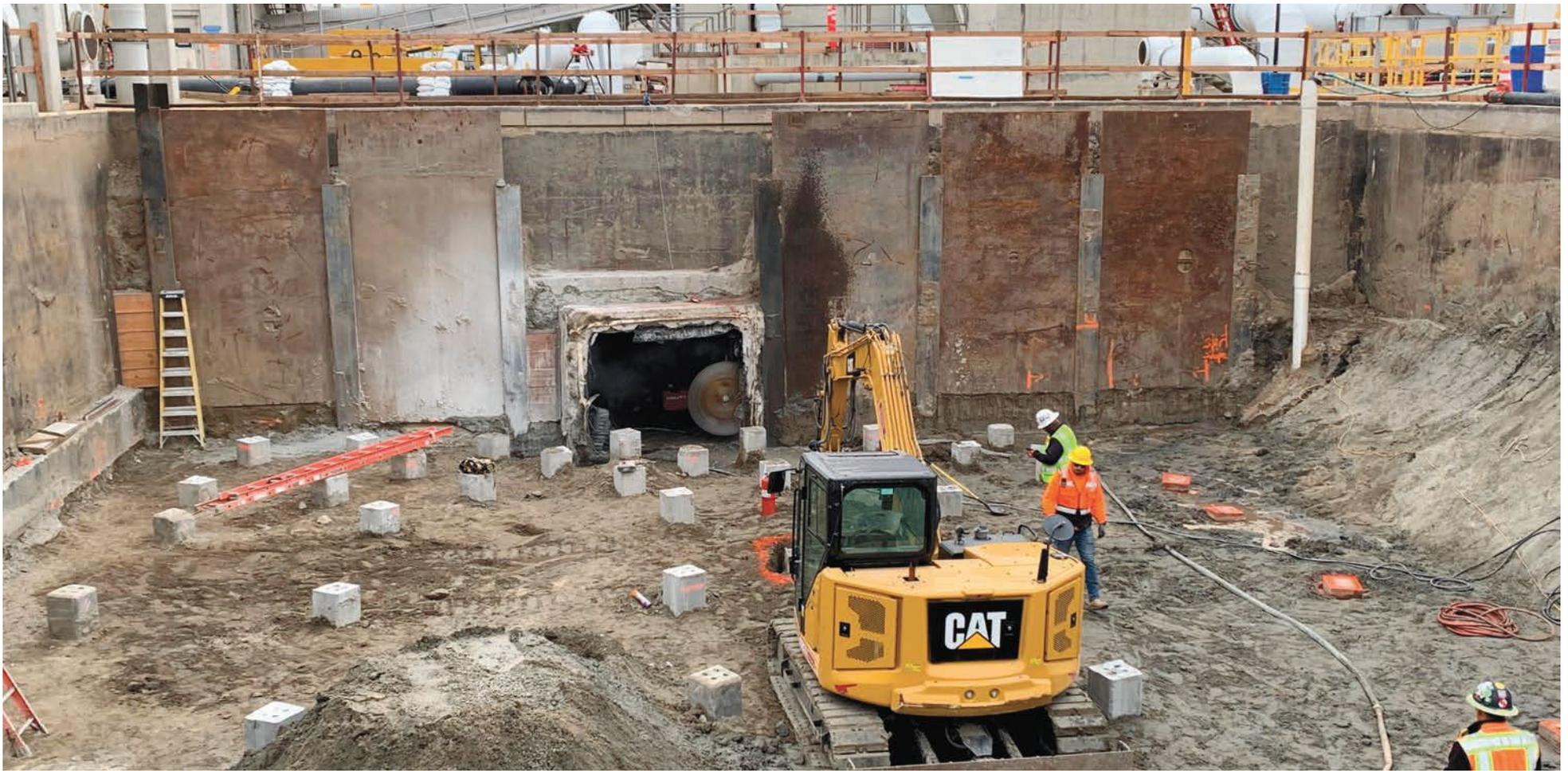
3. **Recycled Water for Landscapes** – Committing to significant recycled water infrastructure improvements and potable irrigation site conversions, working toward our goal of reusing 100 percent of our sewage sent to the Coastal Treatment Plant by 2035.
4. **Potential Indirect or Direct Potable Reuse** – The SCWD Board is exploring the potential for indirect and direct potable reuse for roughly 20 percent of its long-term portfolio.
5. **Groundwater Recovery** – Our brackish desalination facility can produce up to 15 percent of our total drinking water supply.
6. **MWD and MWDOC** – Continuing our long-time partnership on imported water.

Our proposed ocean desalination facility in Dana Point near Doheny State Beach will meet all State Ocean Plan requirements and will provide up to five million gallons per day of local, safe, drought-proof, and high-quality drinking water.

Thanks to bipartisan support, we have received \$32.4 million in grants from the State and Federal government. We want to thank U.S. Senators Dianne Feinstein and Alex Padilla, Congressmembers Mike Levin and Michelle Steel, State Senator Pat Bates, Assemblymembers Cottie Petrie-Norris and Laurie Davies, and Supervisor Lisa Bartlett for their continued support.

This “fourth aqueduct” will enable SCWD to continue providing reasonably priced water during droughts, earthquakes, and other natural disasters. Preserving our economy and the quality of life we enjoy is a mission we can all share. ○





The Headworks facility construction will rehabilitate and replace aging infrastructure at OC San's Plant No. 1 in Fountain Valley. The goal of this project is to strengthen the reliability of the infrastructure, increase the lifespan of critical assets and improve plant-wide operations and services.

Orange County Sanitation District

Renewing our Regional Sewer Infrastructure



“Good planning and collaboration enables us to keep our facilities operating without interruption. It is the only way to be successful.”

John Withers
OC San Board Chairman

With carefully planned and executed projects, the Orange County Sanitation District (OC San) is delivering essential wastewater services for today and the future. Our Capital Improvement Program (CIP) is designed to ensure resilient, reliable, and sustainable infrastructure to protect public health and the environment.

“Good planning and collaboration enables us to keep our facilities operating without interruption. It is the only way to be successful,” said OC San Board Chairman John Withers. “Our staff are highly qualified and knowledgeable. They understand the importance of planning for any eventuality. We are preparing for today, tomorrow and the future to ensure that we are able to continue to provide effective wastewater treatment.”

OC San provides regional wastewater collection, treatment, and recycling to 2.6 million people within a 480-square mile service area in central and northwest Orange County. OC San's two resource recovery and wastewater treatment facilities, located in Fountain Valley and Huntington Beach, treat an average daily wastewater flow of more than 180 million gallons per day from three separate sources— residential, commercial, and industrial. The majority of this treated water is recycled by our partners the Orange County Water District through the Groundwater Replenishment System, which uses advanced treatment processes to treat the water creating a new, reliable,



“OC San has been dedicated to our mission to protect public health and the environment for over 65 years. As we look into the future and move forward with our projects, we remain steadfast in our focus on ensuring innovative, sustainable, and reliable service for our generation and those to come.”

James D. Herberg
OC San General Manager

high-quality source of water. The remainder of the treated wastewater is safely released to the Pacific Ocean five miles offshore.

INVESTING IN THE FUTURE

Ensuring reliable wastewater collection, treatment and recycling requires sound infrastructure. The CIP is OC San's long-term program to maintain and upgrade its infrastructure including the vast network of pipelines, pump stations and treatment facilities. OC San's CIP is engineered to provide reliable wastewater collection, treatment, and recycling services operating 24 hours per day, 365 days per year. The CIP is reviewed annually to validate and prioritize projects that will move forward. As many of OC San's existing facilities near the end of their useful lives, the main driver for many of the CIP projects today is rehabilitation and replacement. Over \$5.8 billion of CIP spending is projected over the next 20 years.

Despite the pandemic, OC San issued \$475 million of construction contracts for more than 20 capital projects during fiscal year 2020-21. The activities addressed a range of projects, with notable efforts on finalizing designs for significant multi-year construction projects such as the Headworks Rehabilitation (pictured to the left), which is a six-year project focused on upgrading major components of the wastewater treatment process.

Construction also began on our new Administrative Headquarters Complex across the street from Plant No. 1 in Fountain Valley. This will allow various administrative staff dispersed throughout the Fountain Valley facility to come together in a centralized location. Ten aging buildings and temporary trailers will be demolished, preserving space for future wastewater infrastructure. The three-story office building will include an educational center, public lobby, surface parking, and pedestrian bridge connecting the new building to Plant No. 1 across the street in Fountain Valley. The new building is slated for Leadership in Energy and Environmental Design (LEED) Gold certification.

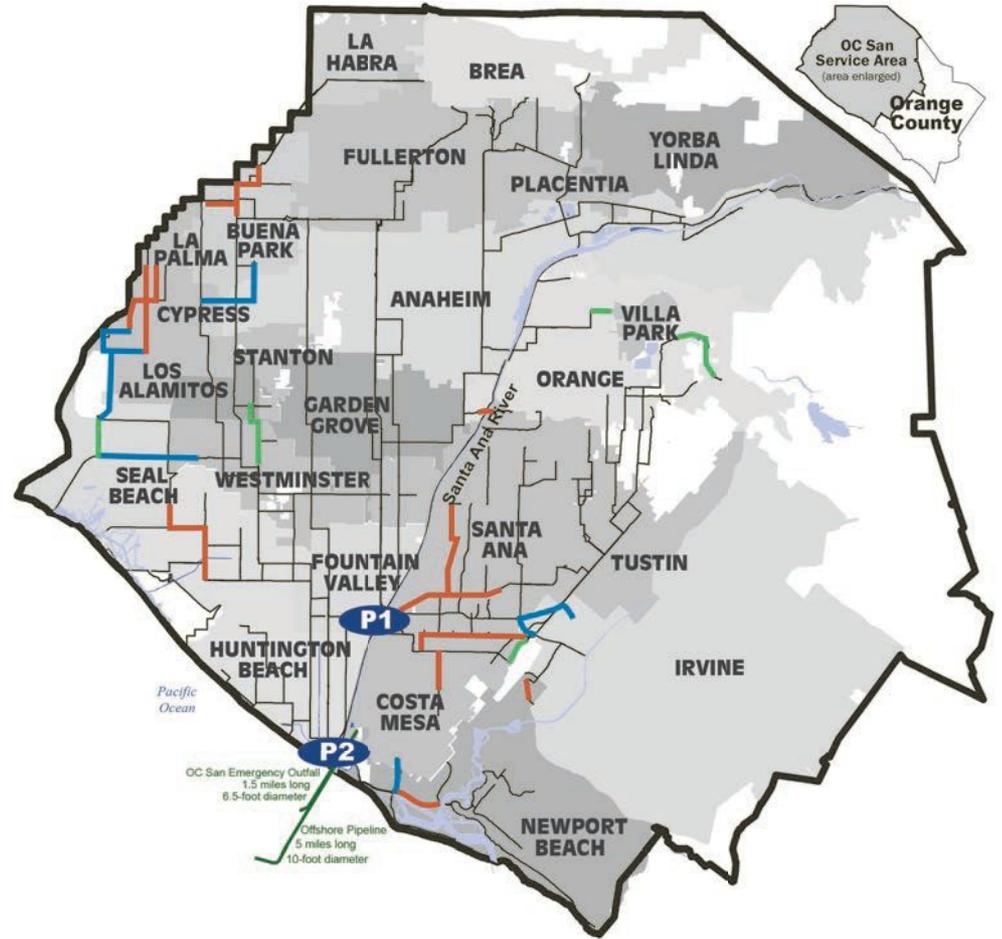
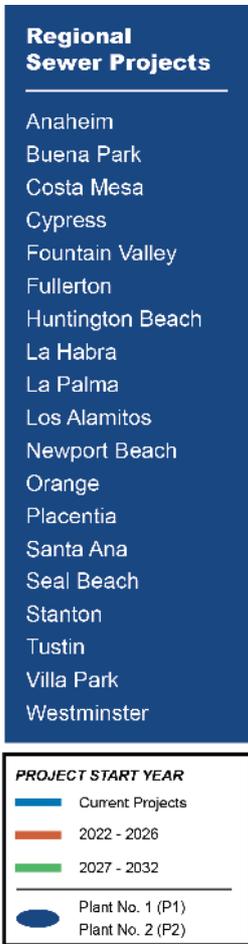
In addition to upgrades at our two plants, members of our community will notice construction in the streets. As part of the rehabilitation of the Western Regional Sewers, the Orange-Western Sub-Trunk & Los Alamitos Trunk Sewer Rehabilitation will continue in the cities of Anaheim, Buena Park, Cypress, Los Alamitos, Seal Beach, and the unincorporated area of Rossmore. Over eight miles of pipelines and 100 manholes will be either rehabilitated or replaced. ○



www.ocsan.gov | @OCSanDistrict



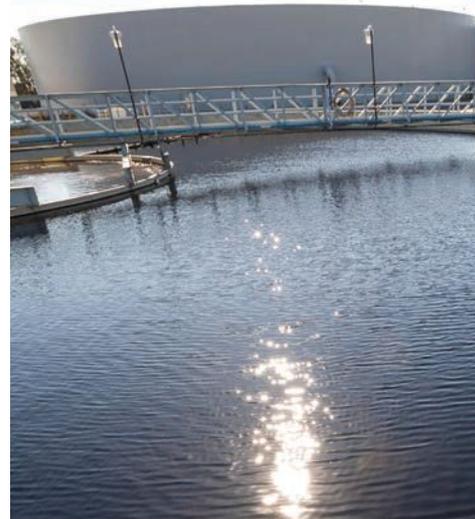
Ten Year Capital Improvement Program



OC San maintains 388 miles of regional pipelines in the collection system and 15 pump stations.

Construction activities include manhole repairs and replacement, upgrades at our two treatment facilities in Huntington Beach and Fountain Valley, pipeline repairs and replacement, and upgrades to pump stations.

We Want to Work With You



OC San is dedicated to serving the residents and businesses in our communities, and this extends to contracting with local vendors. Have a company that might fill our needs? Join us at one of our upcoming Vendor Workshops.

All workshops are Tuesdays at 10 a.m.

- Maintenance Services: **May 3**
- Professional Services, Goods, and Supplies: **July 12**
- Construction Services: **Sept. 13**
- Maintenance Services: **Nov. 8**

Interested in doing business with OC San go to:
www.ocsan.gov/doingbusiness

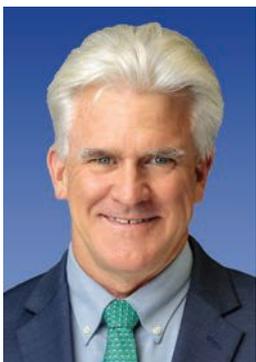
To learn more about OC San's CIP go to:
www.ocsan.gov/construction



Creating a Resilient, Local Water Supply

Santa Margarita Water District to Build Its First Drinking Water Treatment Plant

By Elizabeth Smilor
Special Sections Writer



“If we’re going to import water from Northern California or from the Colorado River, we feel it’s very important to use it as many times as we can.”

Dan Ferons
SMWD General Manager

As Santa Margarita Water District’s service area and population grows, it is expanding and improving local water supply and resiliency.

In the past year, the District completed the annexation of the city of San Juan Capistrano’s water and sewer utility that includes the San Juan Groundwater Plant, began filling Orange County’s largest recycled water reservoir at Trampas Canyon, and is ready to construct its first drinking water treatment plant, the Ranch Water Filtration Plant.

“When we tie the Ranch Filtration Plant into Trampas Reservoir, it will take water that would have otherwise been used once and lost to the ocean and put it back to beneficial use multiple times,” said General Manager Dan Ferons. “If we’re going to import water from Northern California or from the Colorado River, we feel it’s very important to use it as many times as we can.”

The District serves about 200,000 residents in Mission Viejo, Rancho Santa Margarita, San Juan Capistrano, Coto de Caza, Wagon Wheel, Las Flores, Talega, Ladera Ranch, and Rancho Mission Viejo. It currently provides customers with roughly 9.8 billion gallons of drinking water per year, about five percent comes from the San Juan Groundwater Plant; the rest is imported. It recycles about 2.8 billion gallons of wastewater per year for irrigation, construction, and other uses.

The District’s board of directors set a goal to diversify its water supply by 2030 by accomplishing three objectives: create a local drinking water supply; recycle 100 percent of its wastewater; and establish a six-month supply of drinking water stored in the service area for an emergency.

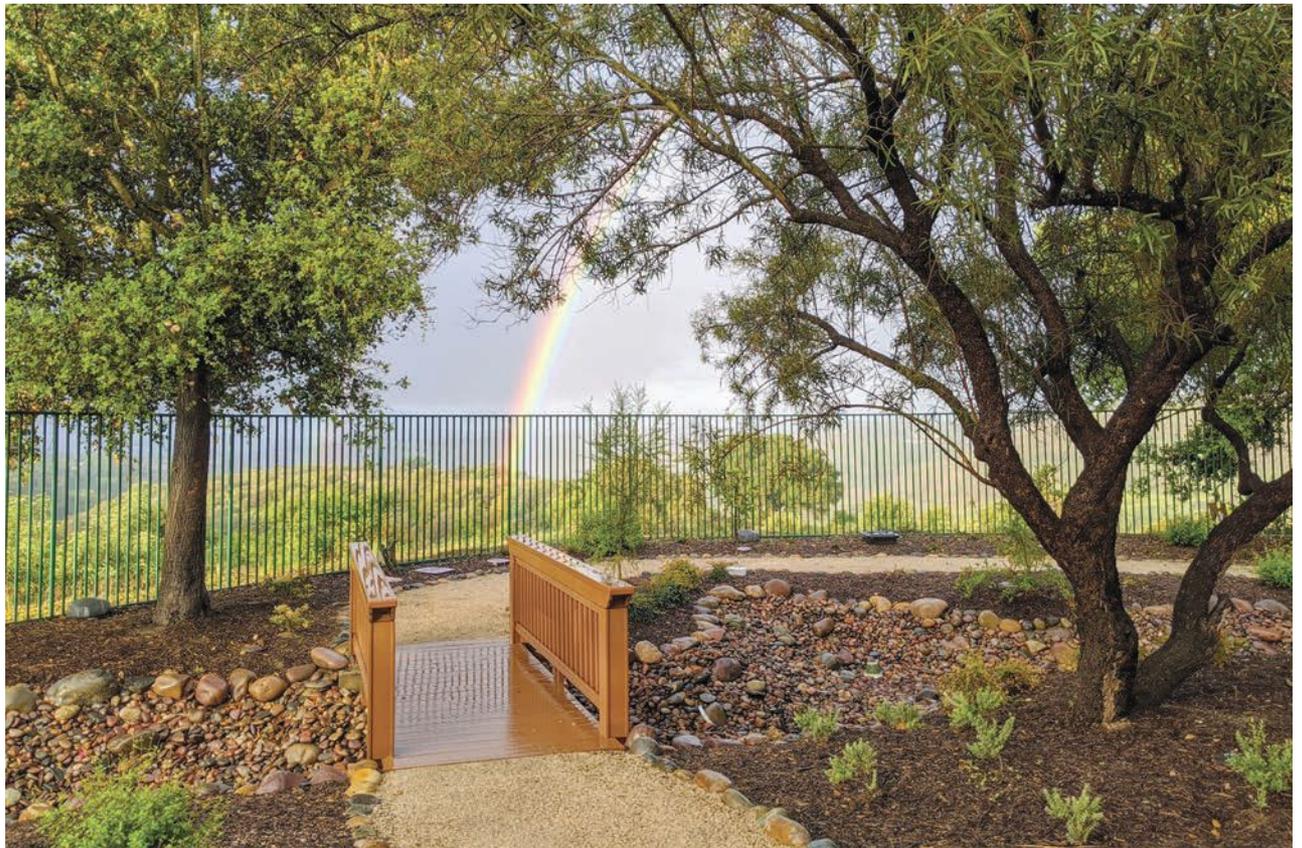
On the recycled water front, the District has put about 326 million gallons of recycled water into Trampas Reservoir since it was dedicated in October 2020. The reservoir has a storage capacity of 1.6 billion gallons of recycled water – enough to fill 2,500 Olympic-size swimming pools.

“Trampas really is an important piece in our water supply portfolio. The whole idea is to fill it and empty it as many times in a year as we can and put recycled water in there when it’s not needed for irrigation,” Ferons said. “It really is a great accomplishment of the District to have not only Trampas, but Upper Oso and Portola reservoirs, where we can store recycled water and draw it down when it’s needed.”

The San Juan Groundwater Plant on San Juan Creek (which the District acquired with the annexation of San Juan Capistrano’s water utility), currently provides about five percent of the District’s potable water demand. Work has begun to optimize the plant and double its production. The Ranch Filtration Plant will treat groundwater from the



At left, Trampas Canyon Reservoir was dedicated in October 2020 and began filling with recycled water last year. It is now at about one-fifth its capacity. Above, officials celebrate the annexation of the San Juan Capistrano water and sewer utility in November 2021. Santa Margarita Water District's WaterWorks Garden, at right, shows residents and businesses drought-tolerant landscape designs and irrigation methods.



San Juan Basin to supply some 1.6 billion gallons of drinking water per year to customers at full buildout. Additional infiltration and recharge basins along San Juan Creek will bring the District to its goal of local water supply for indoor use.

“The Ranch Filtration Plant is going to double our local capacity,” said Deputy General Manager Don Bunts. “In an all-out emergency we will ask our customers not to irrigate anything, but they will have the indoor water they need. We’re a third of the way there. Everything we build, the better off we are.”

The ongoing drought has made Santa Margarita’s efforts that much more important and timely.

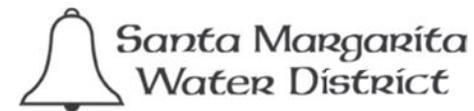
“The public is aware of the drought situation and is more receptive to long-term projects,” said Bunts. “As we’re seeing continual drought, they are looking to us to make sure we’re demonstrating that we’re doing all we can to keep the water flowing.”

While the District focuses on local needs, Ferons pointed out how projects benefit the region and state as well. “During normal times, we’ll still be operating this new filtration plant and that will free up imported water that can go to a disadvantaged community or into regional storage,” Ferons said.

The other way local actions make a difference is through water use efficiency and conservation. To give customers an idea of what’s possible for efficient landscaping, the District has a demonstration garden at its headquarters with different styles of drought-tolerant landscaping, plants, and irrigation methods on display. The District team meets with customers to offer advice on specific things they can do in and around their homes that will save water both indoors and out. The District is also working with developers to create water-wise landscaping and water-efficient homes.

“We have a lot of new growth in our area, but water demand is not going up proportionally with the population,” said Bunts. In fact, said Ferons, current water use is less than it was 10 years ago despite the growth.

Santa Margarita Water District is proud of its investments in water resilience and sustainability and will work to continue to provide a safe, reliable water supply to the growing south Orange County area. ○



The Water Festival is Back!

A free, family-friendly water awareness event that includes: bus tours of Orange County’s largest recycled water reservoir, Trampas Canyon; walks through the WaterWorks Garden to learn about drought-friendly plants and garden designs; information from garden professionals, water experts, and dozens of exhibitors; children’s activities; live music; food trucks and more.

WHEN: Saturday, May 7 from 10 a.m. to 1 p.m.

WHERE: SMWD Headquarters at the corner of Oso Parkway and Antonio Parkway (26111 Antonio)

For more information, go to www.smwd.com/Festival



10 TOP TIPS FROM FEMALE LEADERS IN WATER

By Kayla Harris

Southern California is home to many incredible women leaders in the water industry. Read about 10 inspiring women working in California water today who offer advice to newcomers and talk about things they wish they knew when they started.

Their reflections on their careers, their support for one another, and their advice for other women pursuing a future in water are nothing short of inspiring. Each woman serves as a member of the Southern California Water Coalition Board of Trustees and several also chair or co-chair its task forces.



PATTY CORTEZ

Patty Cortez, Mayor for City of Covina, SCWC board member, and co-chair of the SCWC Legislative Task Force, encourages new professionals to learn as much as they can and not be afraid to ask questions. She reflected on moments at the beginning of her career when she was intimidated by others' titles and expertise. "Over time, I found that the water industry is a very supportive community across all levels," said Cortez. "I wish I had taken those early moments to ask questions and increase my knowledge in the field."

Cortez herself brings tremendous expertise and experience that benefits the water field, including a background in public relations, work as a district staffer for a member of Congress, and public affairs and legislative project management for an energy utility.

"I truly believe every position I had prepared me to be where I am today," said Cortez. "My background helped me realize that my passion was working in government and communicating to the public. Thankfully I have been fortunate enough to combine the two into my position today."



HEATHER DYER

Looking back on the beginning of her career, Heather Dyer, the CEO and general manager of the San Bernardino Valley Municipal Water District, never imagined that the top job at a water district was in her professional future. "I am an endangered species biologist by training," said Dyer. "If I could give myself advice when I was new to the water industry, it would be to take off your blinders and let yourself imagine what is possible and what path you might take."

Dyer discovered that her skill set was applicable across many aspects of her work throughout her career. "At the beginning, I never fully understood my 'why.' My why is complex problem solving to make the world a better place. I wish I had figured that out earlier." She encourages young women just entering their field to figure out their "why," too. "That will drive your future to do work that you love."



ALLISON FEBBO

For Allison Febbo, the general manager of the Mojave Water Agency, inspiration to pursue a career in water started with the female role models throughout her life. "I had a science teacher in high school who went out of her way to acknowledge and support my interest and abilities in the subject," said Febbo, who also chairs SCWC's Delta Issues Task Force. "And later, a college professor and scientist guided my development and was a great role model." More recently, Febbo was encouraged by a colleague at the Mojave Water

Agency. "Laura King Moon, the assistant general manager of State Water Contractors, made regular efforts to advise and support me through my career development," added Febbo.

She considers herself fortunate to have been motivated by several influential women throughout her education and career and hopes to do the same for young women looking to enter the water industry today. "I would advise young women to expose themselves to as many networking, training, and leadership experiences as possible throughout their career, including finding a trusted mentor to help with guidance and advice," said Febbo. "Find a comfortable work/life balance. We must develop and honor ourselves as whole individuals to make sustained contributions to water."



CAROL LEE GONZALES-BRADY

Carol Lee Gonzales-Brady, the Board President of the Rancho California Water District and co-chair of SCWC's Legislative Task Force, was inspired by prominent water rights attorney and Laguna Beach County Water District Commissioner Susan Trager to pursue and persist in her work in the water industry. "I had the honor and pleasure of counting her as a dear friend for years," said Gonzales-Brady.

When one is just starting out in their career, it can be easy to get caught up with worries about what other people think. But the best advice that she'd give those starting out is to not to try too hard to please everyone. "There will always be those who may not like you or may even work against you for a variety of reasons," said Gonzales-Brady. "But respect is more important than popularity, so make sure you focus on producing high-quality work."

**SANDY KERL**

Sandy Kerl, general manager of the San Diego County Water Authority and chair of SCWC's Colorado River Task Force, found inspiration from a female water veteran of her district who pioneered innovation. "Maureen Stapleton, SDCWA's retired general manager, helped to create water reliability through innovation and creativity in the San Diego region that had never been done before and is standing the test of time during this historic drought in California." It's these dynamic approaches that Kerl hopes to see more women bringing to the future of water.

As one who spent her entire career in public service, starting as an intern and working her way up, Kerl knows a thing or two about professional growth and development. "Avail yourself to all opportunities to learn and engage," Kerl advised all newcomers to the water industry. "Seize opportunities to attend webinars, training, conferences, mentorships, and new assignments for which you will have to stretch to achieve the desired outcome."

**JOONE KIM-LOPEZ**

As a former police officer, Joone Kim-Lopez is unafraid to stand up for those who can't speak for themselves. "I can't sit by and see injustice," said Kim-Lopez, who is now the general manager of the Moulton Niguel Water District. "I hope that women will be more impactful in establishing justice because when you talk about diversity and inclusion, what it comes down to is justice." She hopes that her leadership will continue to inspire regional inclusion efforts and keep moving water in the direction of equity.

There were many women in water that Kim-Lopez looked up to when she entered the public leadership. "Environmentalism Frances Spivy-Weber, Orange County-based water leaders Cathy Green and Pam Tobin, and San Bernardino County-based water leader Kathy Tiegs all spoke up and stuck up for others," said Kim-Lopez. "I admired that." She went on to articulate her hope for the water industry's future to include more perspectives from different backgrounds. "We have the ability to make things better for the people of California," said Kim-Lopez. "Find your calling. Get involved in your community."

**KRIS MURRAY**

Kris Murray, Chair of the Santa Ana Regional Water Quality Control Board and president of KLM Strategies, a women-owned consulting firm advancing sustainable projects, encourages women's involvement in the water industry. "Women are still underrepresented despite many rewarding career paths within the water industry," said Murray. She recommends that women entering the sector identify mentors to guide them and to join associations and industry groups that will help them develop their skills, broaden their contacts, and open opportunities for leadership.

"The future of water must include a comprehensive focus on the nexus between climate change, sustainability of our natural resources, water quality and supply," said Murray, who also chairs SCWC's Water Energy Efficiency Task Force. "I look forward to watching women in water innovate new ways to resolve these issues and secure the long-term resiliency of our industry."

**JANICE RUTHERFORD**

Janice Rutherford, SCWC Board Chair and the Second District Supervisor of the County of San Bernardino, is continually inspired by women's hard work, expertise, and contributions to the water sector. Her shoutout is to Debby Cherney, who served as the Eastern Municipal Water District's Deputy General Manager.

"Debby impresses me with her work ethic as well as her desire to expand her knowledge of policy and government issues," said Rutherford. "She is dedicated to helping other women succeed in their career paths, and I admire her commitment to excellence in public service."

**KATHY J. TIEGS**

Kathy J. Tiegs, former SCWC Board Chair and longtime director of Cucamonga Valley Water District, was motivated by another strong leader in water. "Pat Mulroy, the retired general manager of Southern Nevada Water Authority, inspired me throughout my career," said Tiegs. "In a male-dominated industry, she encouraged women to get involved in water issues and pursue leadership and elected positions. I am forever grateful to Ms. Mulroy for the example she set in blazing the path for women in the water industry."

Tiegs also had a welcoming statement for young women entering the water industry. "You are the next generation of women water leaders to protect our most vital resource: water," said Tiegs. "The water industry provides you with the opportunity to achieve your long-term goals, take on leadership roles, work with a diverse multidisciplinary group of professionals, meet interesting people, influence collaboration and outcomes, and most importantly, have your voice heard as more and more women get involved in water issues."

**EUNICE ULLOA**

Mayor Eunice Ulloa of the City of Chino grew up in the hub of the citrus and dairy industry, making her keenly aware of the importance of water from a young age. When she served as the executive director of the Chino Basin Water Conservation District, she was excited to see many young women entering the water industry.

Ulloa, who has served on the Chino City Council since 1984, recounted a time that she felt re-inspired by one of her hires: "I hired a young woman with a doctorate in Water Science and Management to lead our education programs. Her passion for her work, her knowledge and understanding of the science of water, and the art of educating others about water were infectious. Her energy and creativity in teaching students about water by getting them out in the field, experiencing the complexity firsthand, and passing along those skills to educators were exciting and inspiring. When she spoke, you could see lightbulbs turning on in the room. I think that for those of us who have been in the water industry a long time, it is important to look at the issues from new perspectives."





What Matters
Water TV & Podcast



HEAR FROM TOP WATER LEADERS

EPISODES

#1 | **Adel Hagekhalil**, General Manager, Metropolitan Water District

#2 | **Joaquin Esquivel**, Chair, State Water Resources Control Board, and **Karla Nemeth**, Director, California Dept. of Water Resources

#3 | **Ellen Hanak**, Public Policy Institute of California; **Newsha Ajami**, then with Stanford University's Water in the West; **Faith Kearns**, author, Getting to Heart of Science Communications

#4 | **Senator Henry Stern** and **Assemblyman Eduardo Garcia**

#5 | **Martha Guzman**, head of US EPA Pacific Southwest; **Felicia Marcus**, fellow, Stanford University Water in the West

www.socalwater.org/podcast/ or
anywhere you download podcasts

Southern California Voices Need to Be Heard on Water Investment

As the state of California continues to experience drought conditions, water infrastructure investment has become a top priority for many organizations.

The Southern California Water Coalition is just one of the groups that has called on state leaders to use budget surplus funds to invest in additional water infrastructure. SCWC has joined with eleven other organizations to call for more funding for projects that will help to increase local and regional water supply development, fix aging infrastructure, improve water quality and investment in new and existing water storage projects.

The coalition has also called for investment in water recycling and reuse projects that will help to stretch our limited supplies by allowing us to use each drop of water more than once. With the right investment, these organizations hope that California can begin to address its chronic water woes.

- Local and regional water resilience investments – \$2.5 billion
 - Large-scale regional water recycling
 - Investments in local recycled water projects
 - Investments in additional local and regional water supply development and water use efficiency initiatives
- State Water Project subsidence repairs – \$585 million
- Treatment for drinking water constituents of emerging concern – \$500 million
- Water storage – \$1 billion
 - Supplemental funding for Proposition 1 surface and groundwater storage projects
 - Investments in dam safety projects
 - Investments in groundwater storage and related infrastructure





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