



# CALIFORNIA WATER


ORANGE COUNTY 2021

**End of an Era:  
Kightlinger Retires  
as Met GM**

**Innovation &  
Forethought:  
OC Agencies Embrace the Future**

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# Framework for the Future

Welcome to the first issue of the Southern California Water Coalition's partnership with the publishers of **California Water Orange County**. This special magazine focuses on the good work being done by water agencies and others throughout Orange County — from new facilities under construction to plans to improve water quality and more. I'm sure you'll agree that this work toward a water resilient future for Southern California is important, one that we often take for granted.



Charley Wilson

In addition to reports from the Municipal Water District of Orange County, Orange County Water District and Orange County Sanitation District, this issue features an interview with one of Southern California's top water leaders, Jeff Kightlinger. As general manager of the Metropolitan Water District of Southern California since 2006, he manages the nation's largest wholesale water agency as it ensures safe and reliable delivery of water through its member agencies to more than 19 million people. As U.S. Senator Dianne Feinstein said when SCWC gave him our highest honor last fall, "Thanks to [Kightlinger's] efforts, California's water future is really in a far better place today." We couldn't agree more.

In preparing this issue, I have been amazed by the forward-thinking "all-of-the-above" approach taken by so many community and water leaders in Orange County. They understand that there is no one size fits all solution to our water supply issues but that all must be considered together. Thanks to them, the county in which I have lived for many years is on the forefront of important efforts to secure water supply resiliency from the impacts of earthquake, droughts, aging infrastructure and more. Their investments in water supply reliability ensure a bright future for generations to come.

I hope you enjoy this look at what's happening with Orange County's water supply today and continue to join us in our efforts to address California's water issues. ○

Feel free to send us feedback at [info@socalwater.org](mailto:info@socalwater.org).

**Charley Wilson**  
Executive Director

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



## Longtime Metropolitan General Manager Retiring

*Jeffrey Kightlinger Hopes his Leadership Legacy is Seen as Effective, Collaborative and Decisive*

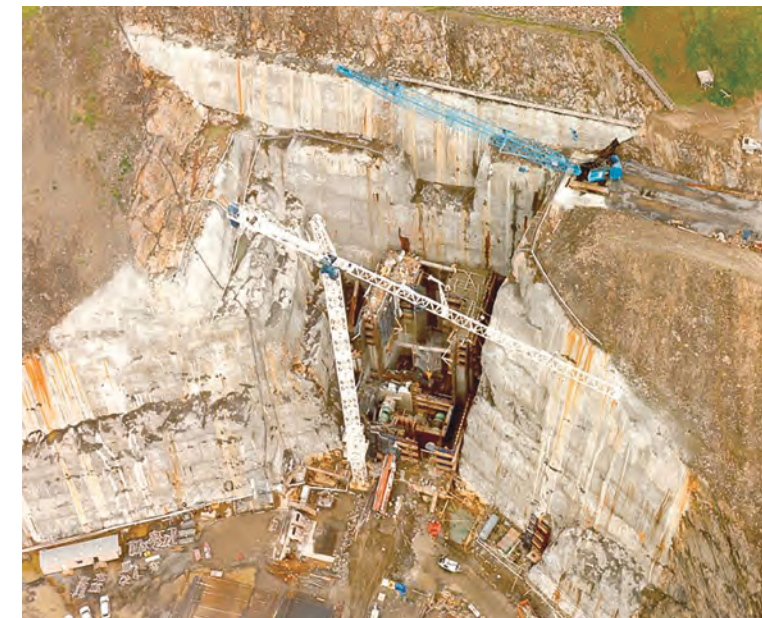
After serving 15 years as general manager at the Metropolitan Water District of Southern California, Jeffrey Kightlinger will be stepping down later this year. Kightlinger, who also served 10 years as Metropolitan's general counsel, announced last March he would retire after the board finds a replacement. Though he says he doesn't know his next move, he will continue to work after a little time off. "I felt it was time for someone new at Metropolitan. I always told myself that I wasn't going to overstep. I believe that in this kind of position, you can't be effective forever. I thought 15 years was around the right amount of time and I feel like I'm going out on top." Kightlinger recently reflected on his 25 years with Metropolitan as well as the future of the water industry.

**Q: You've been part of many significant milestones in Metropolitan's and Southern California's water history. Is there one accomplishment that is particularly meaningful for you? Why?**

A: The quantification settlement agreement on the Colorado River in 2003 was very significant. We had been battling over everybody's water supply on the Colorado River for decades. We were able to put together a truce among seven states, two countries and 10 Native American tribes to work together to help manage the Colorado River for the benefit of all of us and we've been able to do that for the last 20 years.

**Q: What do you see as Southern California's greatest water challenges and opportunities in the coming decades?**

A: Climate change is going to pose an incredible challenge for us. Particularly, we are seeing that the Rocky Mountain region is very vulnerable and we know we're going to lose a big part of our supply through higher temperatures, greater evaporation and all the effects of climate change on the Rocky Mountains. Because Colorado River water is shared by those seven states, two countries and the many tribes, we're going to have to bring all



Metropolitan General Manager Jeffrey Kightlinger, opposite, speaks at the Regional Recycled Water Advanced Purification Center grand opening in October 2019. Kightlinger described the construction of Diamond Valley Lake and its feeder pipelines in the 1990s, shown above, as one of the most challenging projects in his time at Metropolitan. He said the opening of that reservoir, at right, also was one of the most memorable moments of his career. He is pictured below at Diamond Valley Lake, the largest drinking water reservoir in Southern California.



those parties together and come up with a plan to deal with a reduced supply but still supply adequate water across all those state lines. It will take a lot of negotiation and smart thinking by 2026 when the current operating guidelines will expire.

The Delta Conveyance tunnel project is a plan to modernize our current system. (The Metropolitan Board voted in December 2020 to fund its share of the environmental planning and preconstruction costs of the Delta Conveyance Project, a single-tunnel fix for the State Water Project.) The challenge with the Colorado River supply is that climate change is reducing the overall amount of water available to us and shrinking the snowpack. In California, the challenge climate change is bringing to us is that it's making our weather even more volatile with longer, hotter, dryer droughts and bigger, larger, flashier storms. We need better infrastructure to capture the water from those big storms and move it quickly into storage so we have it for those long, dry years.

**Q: In the past quarter century, Metropolitan has undertaken two very different types of public works projects – Diamond Valley Lake (a reservoir in the Inland Empire) and the Regional Recycled Water Project. How has Metropolitan evolved during your tenure to meet the needs of Southern California?**

A: In beginning of my tenure 25 years ago, we were in the process of building the Diamond Valley Lake and Inland feeder project, to capture water in wet years and use it during droughts. It has worked exactly like we planned. We drained Diamond Valley Lake twice, once in 2007-08 and again in 2015 and then filled it rapidly in the wet years that followed. That has really been an insurance buffer for Southern California. That ability to capture and store water has enabled us to deal with the impacts of climate change. But we still need to develop alternative supplies that will be available to us in even dry years. ... That's how we see the



Regional Recycled Water Project being developed in partnership with the Sanitation Districts of Los Angeles County. It's a large-scale, very expensive regional water recycling project that we intend to develop to get an even more drought-proof supply.

**Q: You've spoken frequently about the importance of collaboration in the water sector, are there partnerships that you never would have thought Metropolitan would be able to form?**

A: When I came to Metropolitan, we had a history of battling with agricultural districts and battling with other states on the Colorado River and I see us now as never having worked better with the agricultural districts and partners along the Colorado River. We're not engaged in litigation, we're involved in collaboration. I have seen us really focus on how we all can collaborate and work together and how we can develop reliability so that we are not so much independent of each other but that we are interdependent. To create a situation where we are all making each other stronger and more reliable.

It has been a real revelation to see the water industry move to that. The old adage "whiskey is for drinking and water is for fighting" is not true anymore. It's now about working together to ensure reliability for everyone. That has become the ethic of the water industry.

**Q: What words of wisdom would you pass on to your successor?**

A: Originally my thinking was that Metropolitan could go it alone on many of these issues. That we were big enough and strong enough to do that. I've learned that we really need those partnerships and collaboration with other water agencies and interests around the state to be successful. I would tell my successor that the collaboration and partnerships we've developed are really important and need to be nurtured and maintained because we're going to get through our crises by improving everyone's reliability and developing that interdependence. ○

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For comments or questions, email Sean Fitzgerald at [sean@agndm.com](mailto:sean@agndm.com).



El Toro Water District's Emergency Drinking Water Trailer, above, is dispatched during COVID-19 to a County Shelter (March 2020) - Photo courtesy of El Toro Water District. Yorba Linda Water District's Helihydrant, top right, in action during the Blue Ridge Fire (October 2020) - Photo courtesy of Yorba Linda Water District. Laguna Beach City Crews control sewer spill (June 2020) - Photo courtesy of OC Register.



# The Delta Conveyance Project – Everyone Wins

*Science Proves, the Tunnel is the Best Way to Protect the Environment, the Ecosystem, and the Economy from Climate Change and Seismic Risks*

Since its inception more than 60 years ago, the State Water Project has been at the epicenter of California water wars. The battles over the precious waters of the Delta are dressed with different storylines; north versus south, fish versus man, and floods versus drought. To date, despite a few climaxes along the way, none of these chronicles have concluded with a victor. At the same time, the Delta and its watershed fisheries continue to degrade. The only thing everyone seems to agree with is that the Delta is not sustainable in its current condition.



The next chapter of this tale could be pivotal. It could be the part of the story where everyone wins - if it is written correctly.

If environmental groups genuinely want to protect the Sacramento-San Joaquin River Bay Delta, they should embrace Governor Newsom's plans to save it. Governor Newsom has proposed a comprehensive watershed approach. The Metropolitan Water District of Southern California and its 26 member agencies unanimously support the proposal. His plans provide an alternative to lose-lose litigation and pledges over two billion dollars for habitat restoration and

environmental flows while providing for agricultural and urban water supplies.

A key element of his plan is the Delta tunnel, known as the Delta Conveyance Project or DCP, which is in the Environmental Review process. Litigants are lined up to challenge the plan's virtues, claiming that it will destroy the ecosystem and costs too much. Neither is true. In fact, it's just the opposite.

The Delta is a maze of fragile man-made islands, extremely vulnerable to earthquakes, floods, and rising sea levels. In a catastrophic event, saltwater from the Bay would overwhelm the freshwater supply for most of the state, destroying the environment and paralyzing the economy along the way. To protect the ecosystem and the viability of the state's economy, we must re-engineer the delicate estuary that also acts as the heart of its water-delivery system.

The DCP will do just that. It will enhance reliability by capturing water during storms and protecting existing freshwater from climate change, sea-level rise, and seismic events. The project will better protect the

delicate Delta ecosystem and provide funds for habitat restoration. The governor's plan will utilize adaptive, real-time water management to optimize freshwater flow in the Delta. This will reduce the number of fish that end up in pumping plants and reduce the number of fish impacted by water diversions with state-of-the-art fish screens.

Scientists predict climate change will bring more spring runoff and less snowpack in the Sierras. Unfortunately, the State Water Project is not equipped to store this additional runoff in its current state. The tunnel mitigates climate change's inevitable effects by allowing us to capture more of these increasingly frequent high flows instead of losing that water to the ocean. The project will improve water management and water quality for California's communities, farms, and fish and restore habitat.

Those who dispute the cost of the \$16 billion project should take solace knowing that pound for pound (or acre-foot for acre-foot), the DCP is the most economical way to ensure water continues to flow reliably throughout the state. Desalination, recycling, and other local projects are certainly part of the blueprint for long term reliability. However, without completing the DCP, these options will not assure sufficient supplies. It's also important to note that the project will be paid for by those who use the water, not the state taxpayer. The best end to this saga is the successful completion of the Delta Conveyance Project and watershed-scale habitat restoration and delivery of environmental flows when needed. The science supports this. Good for the environment. Good for the farmers. Good for the economy. Good for the fish. Everyone wins.

This battle needs to end. Solutions will not be found in court. Litigation will delay essential habitat restoration and environmental flow supplies. We cannot wait for the earthquake. COVID-19 demonstrates that unexpected disasters happen. We need to turn away from the path of litigation and look towards productive discussions to benefit the environment, agriculture, and urban water users. The Federal Government, locals in the Delta region, and state regulators need to work together and do what is right for all Californians and the Delta ecosystem based on the current and best science.

Otherwise, if we continue with this never-ending story, eventually, everyone will lose. ○

**Sat Tamaribuchi**  
MWDOC Board President  
Division 5



# Disasters Don't Plan Ahead...WEROC Does

When most people think about an emergency or a disaster, visions of law enforcement, firefighters, and medical personnel come to mind. While those first responders are critical to protecting public health and safety, there are others who keep the community safe behind the scenes.

Think of it as a theatrical play. Police, firefighters, and paramedics are the actors on stage that everyone comes to see. Water and wastewater workers are the stage and production crews working silently in the background. No one thinks about them or realizes they are there. Unless something goes wrong.



Vicki Osborn

Emergency preparedness and security are of paramount importance to the reliability of clean, safe drinking water and effective wastewater management. The protection of public health and safety is the top priority for water and wastewater agencies who serve Orange County – our critical resource affects everything and everyone.

The Water Emergency Response Organization of Orange County (WEROC) is responsible for protecting 3.3 million Orange County residents through the resiliency and reliability of the county's water and wastewater agencies. WEROC builds, improves, and sustains the County's ability to prepare for, respond to, and recover from threatened or actual natural disasters, acts of terrorism, and other man-made disasters. Efforts to mitigate these threats have increased significantly in the last 20 years, and through these expanded efforts, the probabilities of existing hazards such as earthquakes, floods, and wildfires are now recognized.

The threat of terrorism and cyber-attacks have also challenged water and wastewater agencies like never before. Climate change effects are producing extreme weather occurrences including severe rain events or lack of rainfall leading to a drought. The potential for more significant wildland fire incidents, winter storms, extreme heat incidents, and coastal storm surges are imminent. Considering the potential impacts and challenges disasters pose on our water and wastewater

infrastructure, the need for planning and mitigating against these threats has an undeniable return on investments.

Concurrently, expectations for local government services have also risen because residents and businesses are increasingly dependent upon collective infrastructure, utility services, transportation, and information systems. And so, the federal government is urging local governments to adopt a culture of preparedness. This standard is no different for the water and wastewater agencies, as demonstrated with more stringent federal regulations, such as the American Water Infrastructure Act of 2018. Local governments are expected to increase preparedness resources, mitigate and harden infrastructure, and stand ready to address their own needs following a disaster without state or federal assistance.

To carry out its mission, WEROC provides essential resources, training, and exercises to its 37 member agencies and coordinating partners throughout the County and State. The program takes an active role in engaging trained Emergency Operations Center (EOC) staff and maintaining two EOC's used to coordinate emergency response operations during large-scale disasters. Providing assistance and resources between agencies quickly and efficiently is the baseline to getting our critical infrastructure back online.

As fires, floods, the impacts from COVID-19, and the recent events in Texas have reminded us, nothing is certain. However, we can identify potential disasters and ensure we are prepared to meet potential challenges. WEROC will continue its efforts towards building a culture of preparedness, and is eager to continue its work to strengthen the critical water and wastewater systems that Orange County communities rely on. ○

**Vicki Osborn, Director of Emergency Management,**  
**Water Emergency Response Organization of Orange County and Region**  
**Co-Chair the California Water/Wastewater Agency Response Network (CalWARN)**

The WEROC program is administered by the Municipal Water District of Orange County and supported by Orange County water providers and wastewater agencies. To register for notifications regarding Orange County emergencies and local disasters, visit [www.AlertOC.com](http://www.AlertOC.com).

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# Orange County Water District

## Regional Water Leader Managing and Protecting Orange County's Water Supply

By the time drinking water reaches your home, it's traveled quite a long way with the help of local, regional and statewide water managers, each playing a unique role to ensure the water delivered to you is clean and reliable. Some water comes from Northern California through the Sacramento-San Joaquin Delta, some from the Colorado River and some from Orange County's local and regional sources of water, including far below the ground. A leader in providing high-quality, reliable water, the Orange County Water District (OCWD) manages three of Southern California's greatest water supplies: the Santa Ana River, the Orange County Groundwater Basin and the Groundwater Replenishment System (GWRS).

- OCWD owns and manages a 6-mile stretch of the Santa Ana River, the largest river in Southern California.
- The District also serves as the steward of the Orange County Groundwater Basin, one of the largest of several coastal basins in Southern California. The basin contains billions of gallons of stored water supplies, is millions of years old, and is 4,000 feet at its deepest point.
- The GWRS is the world's largest advanced water purification system for potable reuse. An innovative joint project between OCWD and OC San, it provides local water supplies that are added to the Orange County Groundwater Basin. GWRS water is also injected into coastal barrier wells to keep seawater out of the basin.

### A GLOBAL LEADER IN WATER INNOVATION

As California faces irregularities in weather patterns – longer, more severe droughts and shorter, more intense rainstorms that challenge our infrastructure – OCWD is committed to providing innovative solutions and adhering to responsible and cost-effective planning to increase reliability of our local supplies.

Driven by science and state-of-the-art technology, we built a world-class water purification system that allows us to recharge the groundwater basin. Being able to replenish the basin is particularly important when droughts or other circumstances limit availability of other water sources. To date, the GWRS has created 340 billion gallons of pure drinking water.

And there's more to do – when fully built out in 2023, the GWRS Final Expansion will increase treatment capacity from 100 to 130 million gallons per day; enough water to serve 1 million people daily. Over the years, OCWD has pursued many funding opportunities for this highly successful project, obtaining the full budgeted \$310 million in low-interest loans and grants for use toward the construction of the Final Expansion. These financially-sound investments are critical to serve the residents and businesses of Orange County.

### ENSURING HIGH-QUALITY WATER

There's nothing more important than having safe water in our homes and businesses. OCWD is firmly committed to ensuring Orange County has high-quality reliable water supplies. OCWD's Philip L. Anthony Water Quality Laboratory (Lab)



OCWD's Groundwater Replenishment System is a world-class water purification system that allows the District to recharge the Orange County Groundwater Basin with 100 million gallons of water per day.

performs more than 400,000 analyses of approximately 20,000 water samples each year to ensure that water supplies in Orange County meet or exceed state and federal drinking water standards.

The Lab also supports OCWD in its efforts to identify and address any potential water quality issues that arise. One such issue we're addressing is the presence of per- and polyfluoroalkyl substances (PFAS) in groundwater supplies. PFAS are a group of thousands of manmade chemicals used in consumer products, such as Teflon pans, stain resistant carpets and fast food packaging.

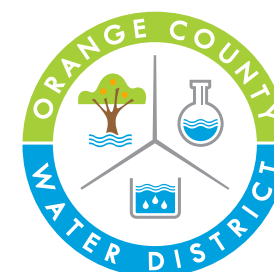
Despite playing no role in releasing PFAS into the environment, cities and water agencies must find ways to remove it from groundwater supplies. To proactively address PFAS in the basin, OCWD swiftly launched the nation's largest pilot project to identify effective treatment, led monitoring and testing efforts, conducted a regional study, and implemented a treatment policy to absorb the majority of the cost to design, build and operate treatment facilities throughout Orange County. OCWD is designing and constructing 10 PFAS treatment plants, with the goal of getting plants online within one to two years.

Additionally, OCWD and 10 of Orange County's public water agencies have filed a lawsuit to protect ratepayers and ensure that the associated costs, including but not limited to treatment and replacement water, are borne by the companies that developed and manufactured PFAS.

### SECURING A RELIABLE & SUSTAINABLE WATER FUTURE

A leading authority for water management in the region, the Orange County Water District is committed to enhancing Orange County's groundwater quality and reliability in an environmentally friendly and economical manner, while providing water for more than 2.5 million people in Orange County through its member agencies which include the following cities and water agencies: Anaheim, Buena Park, East Orange County Water District, Fountain Valley, Fullerton, Garden Grove, Golden State Water Company, Huntington Beach, Irvine Ranch Water District, La Palma, Mesa Water District, Newport Beach, Orange, Santa Ana, Seal Beach, Serrano Water District, Tustin, Westminster, and Yorba Linda Water District.

We are always moving forward, exploring all options, and investing in water supply projects to ensure long-term water reliability. From looking into ocean desalination to increasing stormwater capture; it's all a part of sound planning for the future to ensure that generations to come can count on having clean, reliable water at the turn of a faucet. ○



For more information about OCWD, please visit

[www.ocwd.com](http://www.ocwd.com)

sign up for our newsletter



### New Water You Can Count On

Located in Fountain Valley, the GWRS has set the Guinness World Records title for the most wastewater recycled into drinking water in 24 hours, been featured on 60 Minutes and other national outlets highlighting the innovative recycled water process, and has received more than 50 awards locally, nationally and globally.

Free virtual tours of the GWRS are available monthly! Visit [www.ocwd.com](http://www.ocwd.com) for more information.



At left: Replacement of nearly three miles of two 36-inch diameter sewer pipelines on Westminster Boulevard between Seal Beach Boulevard and Rancho Road/Hammon Place in the cities of Seal Beach and Westminster. Above: Rehabilitation of the Ocean Outfall Booster Station, which is the main pumping station for the discharge of treated effluent to the ocean outfall system. At right: Construction on the State College Sewer Project in Anaheim, which is installing four miles of a 4-ft. pipe 20-feet below the surface level.

# Orange County Sanitation District

## New Logo...Same Great Service



Our logo may have changed, but not the work we do. “Our new logo is a representation of the work we do and the community that we serve,” said OC San General Manager Jim Herberg. “Changing the abbreviated version of Orange County Sanitation District from OCSD to OC San will help our agency be easily recognized and more clearly associated with our mission.”

OC San is continuing to move ahead on projects and plans for Orange County’s future. Each day, OC San collects, treats, recycles, and disposes of approximately 189 million gallons of wastewater from the 2.6 million people living in 20 cities spread across a 480-square-mile area of central and northwestern Orange County.



David Shawver

Overall, OC San’s wastewater collection facilities include 388 miles of sewer pipes and 15 pump stations throughout the service area, and two 100-acre water resource recovery facilities located in Huntington Beach and Fountain Valley.

“As an essential service, OC San continues to meet the mission of protecting public health and the environment throughout this pandemic,” said Board Chairman David Shawver. “Our fiscal stewardship over the years has allowed us to maintain our level of service and the ability to forego the rate increase for the current year during the hardships brought about by the COVID-19 pandemic.”

### CAPITAL IMPROVEMENT PROGRAM

OC San’s Capital Improvement Program (CIP) is a long-term plan to rehabilitate, replace, and update the agency’s regional infrastructure. OC San’s CIP is continuously updated based on the demands on the system, technological advances, and the condition of the facilities. In the 1950s and ‘60s, much of the CIP was focused on developing the backbone infrastructure for wastewater collection and treatment. In the 1970s-’90s the focus shifted to expanding capacity. Today, there is an emphasis on renewing aging infrastructure and upgrading technologies. During the 2019-20 fiscal year, the CIP included more than

120 capital projects with an investment of \$120.8 million in infrastructure improvements. Due to the complexity and size, these CIP projects take several years to complete the planning, design, and construction cycle.

### A CURRENT PROJECT

The Headworks is the first point of entry for wastewater that is collected from the communities we serve. This is where the water resource recovery process begins.

Currently, raw sewage enters the existing Headworks at Plant No. 2 in Huntington Beach via four large sewer mains where it is screened to remove debris and then pumped into the plant where it receives two additional treatment steps before being released to the Pacific Ocean five miles offshore. The Headworks Modification project is reconfiguring the facility to recycle an additional 30 million gallons per day of treated wastewater at the Groundwater Replenishment System (GWRS) facility in Fountain Valley. The remaining non-recyclable wastewater will continue to be fully treated and released to the ocean.

The GWRS is a water recycling project jointly sponsored by OC San and the Orange County Water District that supplements existing water supplies by providing a new, reliable, high-quality source of water to recharge the Orange County Groundwater Basin and to protect it from seawater intrusion. Together, we recycle enough water to supply the needs of 850,000 people in central and northern Orange County.

Construction is continuing on the Final Expansion phase of this internationally recognized water purification system. The final phase of the GWRS will increase the treatment capacity from 100 to 130 million gallons per day, providing a reliable water source for over one million people. Construction began Spring 2020 with completion by 2023.

### CLIMATE RESILIENCY STUDY

Climate change threatens to increase the risk posed by natural hazards to OC San facilities. These risks have serious implications for the public, our staff, and environmental health within and around the service area. In November 2019, OC San completed the Climate Resiliency Study that involved assessing the risks posed by climate change and developing adaptations to mitigate those risks. The outcome was a Climate Resiliency and Adaptation Plan, one of the first in California to integrate the implications of climate change into improved design standards, emergency preparedness, and facility operations for the future. Climate resiliency is being integrated into ongoing CIP projects.



The plan received the American Academy of Environmental Engineers and Scientists 2020 Excellence in Environmental Engineering and Science Awards Grand Prize in the Planning Category.

For over 65 years, OC San has been protecting public health and the environment by providing effective wastewater collection, treatment, and recycling to our community while keeping our rates less than \$1 a day for a typical household. ○



www.ocsan.gov | @OCSanDistrict





The Groundwater Recovery Facility helps ensure the availability of local water for emergency backup in case the imported water supply is disrupted due to an earthquake, shutdown, or other event.

## Not Our First Rodeo

### South Coast Water District has been Producing Drinking Water by Desalting Brackish Groundwater for Over a Decade

**H**idden in plain sight behind Capistrano Beach's Costco's railroad tracks sits the Groundwater Recovery Facility (GRF). It is one of Orange County's first desalination plants. Operating for the past decade with little fan fair or attention, most residents are surprised to learn about it.

In 2007, the South Coast Water District (SCWD) started pumping brackish (salty) water from the San Juan Basin into a 2,600 square foot facility located on the border of San Juan Capistrano and Dana Point. The plant produces up to 850,000 gallons per day of drinking water from the San Juan Basin. "The water is drawn through a single 126-foot deep well and then forced through 300 horse-powered pumps into reverse osmosis membranes that remove the salt," explains Water Resources Manager Steve Dishon. "The brine (salt from the water) blends with the wastewater that flows to the ocean from the South Orange County Wastewater Authority (SOCWA) JB Latham treatment plant located across the channel."

Brackish water desalination is the most common form of desalination in the United States. In California alone there are over 150 plants and over 1,000 nationwide. Brackish water, which is less salty than seawater, requires less treatment to be used as drinking water. "Brackish water salinity levels hover between seawater and freshwater salinity," explains General Manager Rick Shintaku. "It occurs when surface or groundwater mixes with seawater or where salt dissolves from natural mineral deposits over time." Historically, water agencies could not use this brackish water for drinking water or irrigation because of its high salt content.

SCWD's foresight in developing the GRF allows the District to produce up to 15 percent of our drinking water supply from brackish water supplies. This reduces our dependency on imported water from the northern Sierras and the Colorado River, however it has some limitations. The District cannot always draw water from the basin, particularly in times of drought. From 2014 to 2016, the GRF could not be used due to dry weather and correspondingly limited amounts of water in the San Juan Basin.

SCWD serves roughly 40,000 people in Dana Point, South Laguna Beach, parts of San Juan Capistrano and San Clemente. But it also provides water to over

2 million visitors who power our local economy by sleeping at our five 5-star resorts, eating at our incredible restaurants, spending money at our shops and businesses, and enjoying our world-class beaches. Water is a critical component of our everyday life and vital during human-made and natural disasters that could critically wound our economy.

Fires such as those that ravaged Laguna Beach in 1993 require millions (or billions) of gallons to fight. A local earthquake on any of the five faults that run through southern Orange County could cut us off from northern and central Orange County, our primary source of imported water (Diemer Treatment Plant) or the Colorado Aqueduct. These local earthquakes could cause South Orange County's entire imported water supply to be severed for approximately two months. A massive earthquake along the Delta or the California Aqueduct could cut off half of Southern California's imported water supply for much longer.

To further insulate us from these potential water outages, we need to reduce our dependence on water supplied to us from hundreds of miles away. To protect our way of life, the District continues to investigate additional sources of local water.

SCWD continues to pursue the possibility of the Doheny Ocean Desalination plant. If approved the project would initially produce up to 5 million gallons per day (MGD) of drinking water. The project's Environmental Impact Report (EIR) was approved in June of 2019 and the District has received a combined \$30 million in grant funding from the federal government and State of California.

SCWD is currently pursuing project permits, soliciting agency partnerships, and conducting additional due diligence studies. SCWD plans to hold informational meetings and events regarding its plans throughout the year. To learn more about the Doheny Ocean Desalination project, please visit [scwd.org/desal](http://scwd.org/desal) for more information and to sign up to receive updates. ○

**SOUTH COAST  
WATER DISTRICT**  
*Partnering With The Community*



## Rebuild SoCal Partnership Supports Investing in Water Infrastructure to Keep Your Water Safe and Plentiful

By Amy Bentley  
*Special Sections Writer*

**W**hen you turn on the tap at home, you're grateful for the reliable, clean water that instantly pours out of your faucet, delivering a cool glass of drinking water or the water you need to boil your pasta for dinner and later wash the dishes.

That water has likely traveled many miles to reach your kitchen sink, navigating Orange County's unseen infrastructure of subterranean water pipes that run throughout the county bringing the region its lifeblood. This unseen but critical water infrastructure is essential to maintaining our way of life in Southern California – our lush green lawns, our swimming pools and the large homes with thirsty modern appliances.



Marci Stange

A working water infrastructure also brings economic stability and growth. South Orange County relies mostly on imported drinking water because the region does not have a large groundwater basin with a sustainable water supply, so the unseen pipes are critical for water delivery from many miles away.

Water infrastructure further affects public health. When it works properly, the infrastructure provides safe drinking water and limits pollution in our local rivers and streams. But if it's not maintained, it could lead to contamination and health concerns. Keeping our pipes efficient, leak-free, and well insulated provides a reliable system and reduces water waste.

Nearly half of mayors surveyed by the U.S. Conference of Mayors in 2015 ranked water and wastewater investment among the top three priorities for their cities. Maintaining our local water infrastructure is also important to The Rebuild SoCal Partnership, which considers a well-designed and maintained infrastructure as essential to a high quality of life. With a primary focus on Southern California projects, the non-profit Partnership advocates for responsible investment in public infrastructure projects including airports, bridges, ports, rail, roads and water projects.

The California Water Code states that "every human being has the right to safe, clean, affordable, and accessible water." The Rebuild SoCal Partnership could not agree more.

"It's easy to take our water for granted," said Marci Stange, the Partnership's Director of Water and Environmental Relations. She noted that many Americans lack the luxury of clean water.

"We all expect to turn on our faucets and fresh, clean water will appear. Unfortunately, that isn't always the case, especially in disadvantaged communities. There are many grants available to help these communities, but a lot of times staffing and resources are in short supply. That is why Rebuild SoCal Partnership has partnered with California Consulting, one of the largest grant writing firms in California. We have listened to the needs of these communities and

[See REBUILD, Page 12]



Purple piping refers to lines designated for recycled water, which is treated to a level suitable for irrigation and industrial use, but not for drinking.



A massive network of underground pipes carries water throughout Orange County to treatment plants and ultimately homes and businesses. Opposite, construction is underway on the final expansion of the Ground Water Replenishment System (GWRS), a joint project of the Orange County Water District (OCWD) and the Orange County Sanitation District (OCSan). Above and right, pipelines being installed to carry water in Orange County, which relies on the Orange County Water District's groundwater basin in the north and mostly imported water in south county.



[REBUILD, Page 11]

*“For every dollar spent for construction, it’s always a \$2 increase to the local economy.”*

– **Dave Sorem**  
**Rebuild SoCal**  
**Partnership Board**  
**of Trustees Member**

we are taking action. The Partnership has agreed to fund the cost that it takes to apply for these grants. The outdated infrastructure gets repaired, and jobs are being created. It’s really a win-win for everyone.”

The Rebuild SoCal Partnership works with organized labor and construction management to raise public awareness and educate elected officials on the continued need for infrastructure funding and to enhance the region’s workforce development while creating career construction jobs. The Partnership consists of 2,750 contractors representing over 90,000 union workers in 12 Southern California counties. Valued partners include the International Union of Operating Engineers Local 12 (IUOE), The Southern California District Council of Laborers (LiUNA), and the Southwest Regional Council of Carpenters, Associated General Contractors (AGC) of California, AGC of San Diego, Engineering Contractors’ Association (ECA), Southern California Contractors Association (SCCA), United Contractors (UCON), and the Building Industry Association of Southern California (BIA).

“For every dollar spent for construction, it’s always a \$2 increase to the local economy,” said Rebuild SoCal Partnership Board of Trustees Member Dave Sorem, manager and partner at Mike Bubalo Construction Co., Inc., “We understand the need for infrastructure to keep the economy going, and maintain our quality of life in Southern California.”

There are numerous water projects happening in Orange County, some of which include:

- The City of Anaheim’s new Groundwater Treatment Program, which will allow Anaheim to remove contaminants from the groundwater. This program will

keep long-term costs low for customers and provide high quality drinking water for Anaheim. Program benefits include increased groundwater availability and quality, and improved reliability and efficiency.

- The Irvine Ranch Water District’s new Syphon Reservoir Improvement Project. The project goals are to store more recycled water to meet seasonal and future needs, and reduce dependence on costly imported water, therefore making their community more self-sufficient. Construction is expected to begin in late fall 2023.
- The Huntington Beach Desalination Plant, a 50-million gallon per day facility currently in late-stage development and located adjacent to the Huntington Beach Power Station. It is scheduled to be operational by 2023. The plant could bring significant economic benefits to the city of Huntington Beach and the region, including creating over 2,000 jobs during construction and hundreds of indirect jobs once the facility is in operation.
- The Orange County Water District and Orange County Sanitation District’s Groundwater Replenishment System, expected to be completed in 2023. This new system will provide high-quality, reliable water to 2.5 million people in the two agencies’ service area and is vital to combatting climate change as well as sustaining Orange County’s water supplies and thriving economy. ○



Learn more about The Rebuild SoCal Partnership at [www.rebuildsocal.org](http://www.rebuildsocal.org)

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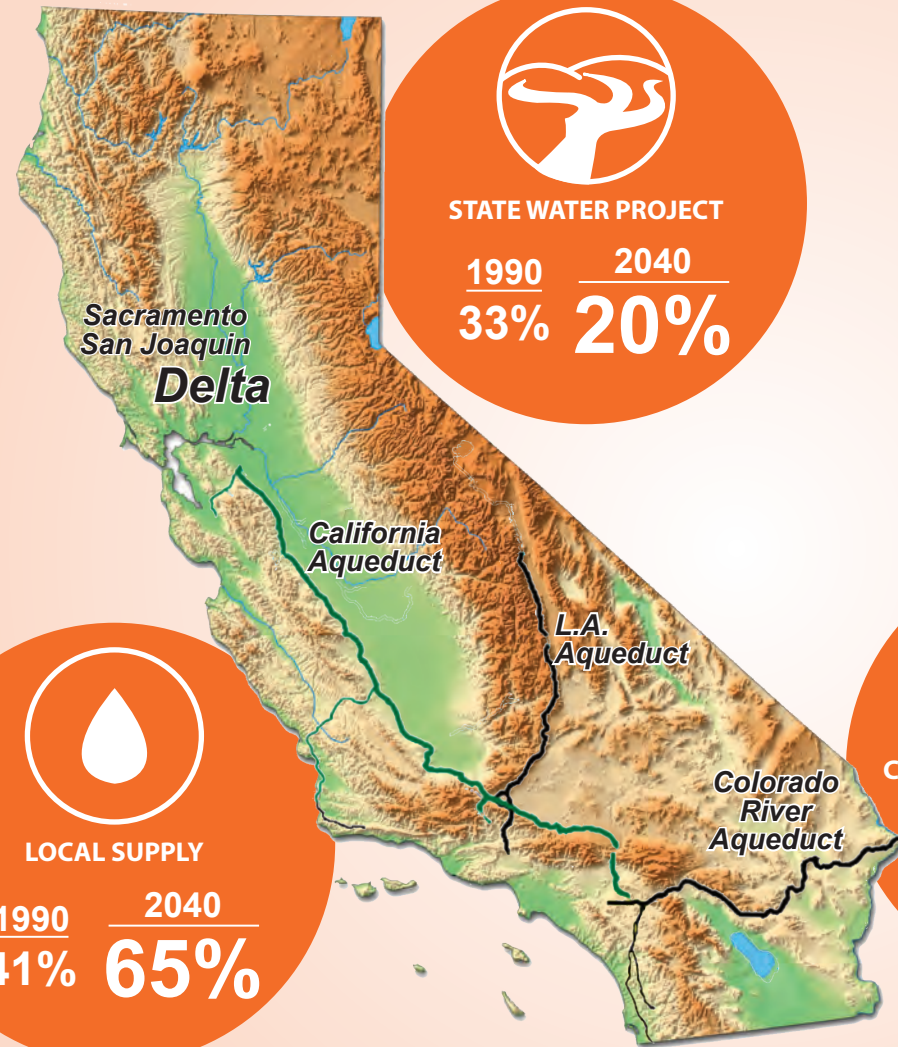
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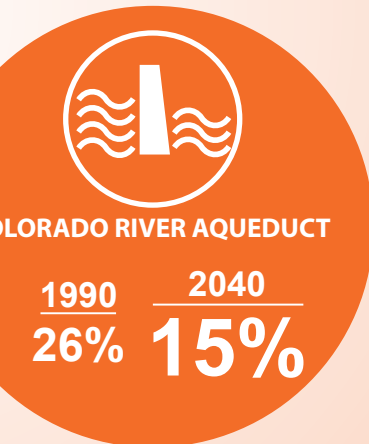


# FORGING SOUTHERN CALIFORNIA'S WATER RESILIENCY

THREE DECADES AND COUNTING



Through bold action, innovation and significant investment, Southern California has dramatically reduced its dependence on imported water and increased the reliability of its local supplies. By incorporating new strategies, imports from the State Water Project have reduced while local water supplies have increased by way of recycled water, groundwater basin management, groundwater contamination cleanup, desalination, stormwater capture, water use efficiency, and increased water storage. These local supply projects, anchored by a Delta Conveyance solution, will support our communities in the years ahead.



Metropolitan Water District of Southern California, "Update on 2020 Integrated Resources Plan Process" presentation, February 25, 2020

## Our "All Of The Above" Approach

We know from decades of experience that there is no one solution to Southern California's water supply resilience. We recognize that a combination of all of these efforts make up our regional supply:

[www.socalwater.org](http://www.socalwater.org)

- Recycled Water
- Groundwater Basin Management
- Groundwater Contamination Clean-Up
- Desalination
- Stormwater Capture
- Water Use Efficiency
- Increased Water Storage
- Modernized State Water Delivery System



## SMWD Proposes Drinking Water Filtration Plant The Project Would Provide a Much-Needed Local Source

By Elizabeth Smilor  
Special Sections Writer



*"(The project) gives us a bit more control over our own destiny as far as cost is concerned and helps us make sure we have water in emergency situations."*  
– SMWD Deputy General Manager Don Bunts

In its ongoing effort to develop a sustainable and reliable local water supply, the Santa Margarita Water District is proposing construction of its first drinking water treatment plant. The Ranch Water Filtration Plant would treat groundwater from the San Juan Basin to supply some 260 million gallons of drinking water per year to customers.

"With this new plant, we will have a local source of drinking water where right now we import all our drinking water from hundreds of miles away; from northern California and the Colorado River," said SMWD Deputy General Manager Don Bunts.

The Santa Margarita Board of Directors set a goal to diversify its water supply by 2030 by accomplishing three objectives: create local drinking water supplies; re-cycle 100 percent of its wastewater; and establish a six-month supply of drinking water stored in the service area for an emergency.

"Our goal is to have 30 percent of our drinking water locally sourced," Bunts said. "It gives us a bit more control over our own destiny as far as cost is concerned and helps us make sure we have water in emergency situations. The 30 percent is in the range of customers' indoor water use so, in an emergency, people could take showers and have water to drink. The Ranch Water Filtration Plant helps get us there."

The District currently serves roughly 7.8 billion gallons of drinking water per year, all of which is imported. It recycles about 2.2 billion gallons per year for irrigation, construction, and other uses. In late 2020, SMWD completed Orange County's largest recycled water reservoir, Trampas Canyon Dam and Reservoir, which will ultimately store over 1.6 billion gallons of recycled water. This facility moves the District closer to its goal of recycling and re-using all of its wastewater.

The Ranch Water Filtration Plant will be located near the intersection of Ortega Highway and Antonio Parkway and adjacent to the Chiquita Water Reclamation Plant. The new treatment plant is estimated to cost roughly \$10 million to build and is planned to begin its first phase of operation in 15 to 18 months, Bunts said.

An existing pipeline will carry the water from existing groundwater wells to the plant. At first, the plant will supply about 260 million gallons of drinking water per year from treated groundwater. Treatment will include microfiltration, reverse osmosis, UV disinfection and chloramination to meet all drinking water standards.

Ultimately, SMWD plans to recharge the San Juan groundwater basin with additional storm water and recycled water to bring the amount of water available for treatment up to 3 billion gallons per year; about 20 percent of the district's drinking water supply.

"We are constantly on the lookout for innovative solutions," Bunts said. "We're fortunate that our board is open to new ideas. When we're able to demonstrate that a proposal is beneficial to the supply, to reliability or is economically feasible, they've been very supportive."

SMWD supplies water to more than 170,000 residents in southern Orange County in the eastern portion of Mission Viejo, Rancho Santa Margarita, San Clemente and the unincorporated communities of Coto de Caza, Las Flores, Ladera Ranch, Sendero, and Esencia as well as the remaining undeveloped portion of Rancho Mission Viejo. ○



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