

CALIFORNIA

# WATER

ORANGE COUNTY 2024

TOP PRIORITY:

# Climate RESILIENCY

**Municipal Water District of Orange County:**  
Managing Abundance

**Orange County Sanitation District:**  
Treating Wastewater for 70 Years

**Irvine Ranch Water District:**  
Prioritizing Infrastructure

**South Coast Water District:**  
Serving the Needs of Coastal Community



SCAN FOR  
DIGITAL EDITION

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# Redefining What's Possible

In the golden hues of Southern California's spring months, a quiet revolution stirs. Amidst the bustling metropolis and sunny beaches, the tide is turning on one of our most enduring challenges: the quest for a sustainable water supply. It's a shift that comes laden with hurdles – the balancing of stakeholder interests, the complexity of new technology, the labyrinth of financial models, and the tapestry of policies that underpin our vital water infrastructure.



But here, where innovation is as plentiful as palm trees, we're redefining what's possible. It's a place where ingenuity and tenacity are woven into the very fabric of our communities, driving us to come together for a cause that touches every life.

Charley Wilson This issue of *California Water Magazine* opens a window to the extraordinary water initiatives unfurling across our region. We're unveiling strategies that breathe new life into our groundwater reserves, pioneering recycling technologies that turn today's waste into tomorrow's water, and deploying advanced systems that make every drop count.

But this is more than a showcase of progress. It's a call to re-envision water – not as an endless commodity, but as the heartbeat of our state. Each initiative invites us to ponder the water flowing from our taps, the resilience of our lands, and the heritage we hope to bequeath to future generations.

Our pages celebrate the trailblazers of the Orange County and beyond – visionaries ensuring that California's light shines as a beacon of holistic water sustainability and ingenuity.

So let's raise our glasses (of sustainably sourced water) to these champions. Join us in a toast to their vision, their achievements, and the shared journey ahead.

Charley Wilson is the executive director of the Southern California Water Coalition, a nonprofit, nonpartisan public education partnership dedicated to informing Southern Californians about our water needs and our state's water resources.



## Investments Keep Water Affordable

By Elizabeth Smilor  
Special Sections Writer

### Collaboration on Many Projects is Necessary

In Southern California, ensuring a resilient and sustainable water supply means making strategic investments across a spectrum of projects, from state infrastructure for water conveyance to innovative recycling and conservation efforts.

"Our communities thrive on the backbone of public infrastructure. To meet our critical needs, it's essential to support projects that ensure a resilient future for our water supply," said Executive Director Charley Wilson of the Southern California Water Coalition, a nonprofit, nonpartisan public education partnership.

The water sector is perpetually bustling with essential projects that, while often overlooked amid more immediate concerns, carry significant economic implications. Negotiations are underway on the Colorado River usage agreement between seven states and dozens of Tribal Nations. Environmental impact reports have been released and certified for the Delta Conveyance Project and Sites Reservoir, both big projects along the State Water Project (SWP) that delivers water from Northern California. The increased snowfall in the Sierra Mountains is a welcome boost to Southern California's water allocation from the SWP, coming after years of drought. In parallel, major recycling initiatives and local supply improvements are in the works, coupled with development of statewide conservation standards that will shape our daily water use.

### State Water Project is Most Cost-Effective Water Source

Despite the critical role of new initiatives in bolstering local water supplies, one fact remains clear: the SWP stands out as a highly affordable and cost-efficient water source for California. This was highlighted in a December 2023 study by the

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

California Department of Water Resources and the Berkeley Research Group. When benchmarked against other water sourcing methods like desalination, water recycling, stormwater capture, and conservation, the SWP's offerings are not only less costly but also scalable to meet larger demands, the research indicates.

"The water that comes from the State Water Project (SWP) has to be protected. This is your cleanest, most affordable supply of water," said General Manager Jennifer Pierre of the State Water Contractors, a nonprofit association of public water agencies that contract for SWP water. "We can't let all of our infrastructure get dilapidated. It's 60 years old and it's time to reinvest."

The SWP is integral to California, supplying water to 27 million people and 750,000 acres of irrigated farmland. Its economic impact is so substantial that if its service area were a nation, it would rank as the world's eighth-largest economy. This affordable water source is particularly crucial for one in three people living in disadvantaged communities.

"The State Water Project's clean, reliable, and affordable water supply will be vital to adapting our economy to the impacts of climate change," said Department of Water Resources Director Karla Nemeth. "California's disadvantaged communities are particularly vulnerable and State Water Project water will be essential to preserve human health and safety."

### Local Projects are Vital in Diversifying Supplies

Local water managers are investigating and investing in a wide array of projects and improvements, statewide and regionally. Agencies also work together to develop infrastructure and help customers conserve.

"Resilience means always having a Plan A, B, C, and D. At Irvine Ranch Water District (IRWD), we have diversified our water supplies with over 50% coming from recycled water for both drinking water and non-drinking water purposes. We capture rain locally in Irvine Lake. We continue to invest in water storage by expanding and restoring the capacity of Santiago Creek Reservoir, expanding Syphon Reservoir, and investing in Sites Reservoir," said IRWD General Manager Paul Cook. "We support fixing the Bay Delta and our state's water conveyance facilities. And we have developed emergency water supplies through our development of water banks that collect water in wet years, so it's there when we need it."

Orange County Sanitation District (OC San) and Orange County Water District (OCWD) are partners in the world's largest indirect potable water reuse project, the Groundwater Replenishment

System. This partnership creates up to 130 million gallons of the highest quality water per day to recharge the aquifer. OC San, in cooperation with cities of Newport Beach and Huntington Beach as well as the County of Orange and Irvine Ranch Water District, also diverts up to 10 million gallons per day of dry weather urban runoff to bolster supply and improve river and beach water quality.

"OC San is always looking for innovative ways to continue to invest in its \$12.5 billion in infrastructure to create more value for those we serve. We are creatively improving and updating our systems to create more drinking water, cleaner rivers and beaches, more

energy and fertilizer with less cost and impact," said OC San General Manager Rob Thompson. "This includes collaborative partnerships across Orange County to leverage all available infrastructure and systems, including water districts, storm water systems, and Orange County Waste and Recycling."

Cook explains how IRWD's budget-based rates keep water affordable for their customers by helping them adjust their water use if their cost goes up.

"At IRWD we focus on water reliability while keeping our rates low and affordable, which is why IRWD has the lowest water rates in Orange County," said Cook. "We focus on providing our customers with high-quality, safe drinking water while encouraging them to use water efficiently — that helps us be resilient making our water supplies go farther."

Projects, partnerships and careful planning are needed, water industry leaders say, to keep water safe, reliable and affordable. ○



"The water that comes from the SWP has to be protected. This is your cleanest, most affordable supply of water. We can't let all of our infrastructure get dilapidated. It's 60 years old and it's time to reinvest."

Jennifer Pierre  
General Manager, State Water Contractors





**W**e are past the peak of the 'wet season' (April 1) and we find ourselves thankful for a second consecutive year of above-average water supplies in Southern California. Currently, the snowpack in the Northern Sierra's and along the Colorado River Basin are both above average, and local rainfall has already exceeded the annual average. Mother Nature has blessed us with another year to add to our water storage instead of drawing on our stored water. But let us not be lulled into complacency. Rest assured, water managers are not resting on their laurels, basking in the afterglow of abundance; instead, they are actively preparing and planning for the inevitable next cycle of drought. As water professionals, we are rolling up our sleeves, charting a course to ensure that every drop is maximized and every resource optimized as we face the challenges ahead.



By Harvey F. De La Torre  
General Manager MWDOC

The conclusion of this year's wet season is not an endpoint; it is a launching pad. We recognize that drought cycles are part of living in Southern California. Our duty is to prepare for the lean times while capitalizing on the plenty. Water managers have learned this lesson multiple times, which is why there is such a commitment to investing in efficient infrastructure, upgrading existing facilities, promoting water use efficiency and conservation practices, engaging in leak detection programs and systems, and installing smart meters to minimize losses and seeking innovative ways to develop new supplies. Every gallon saved today is a gallon stored for tomorrow.

However, these actions and planning efforts are not undertaken alone. MWDOC and the 27 water agencies in Orange County are continuously identifying ways to partner with each other. This

partnership is vital not only in preparation for a future drought but also in meeting new and evolving regulations and mandates. MWDOC has established a regional program with its retail agencies in Orange County to address federal requirements such as the Lead and Copper Rule Revisions (LCRR). We have also engaged in regional advocacy efforts to the State Water Resource Control Board regarding the water conservation mandates required within "Making Conservation a California Way of Life." This is not just assisting water agencies in ensuring compliance and protecting public health, but also saving dollars and resources for the ratepayers of Orange County. These collective efforts contribute to our resilience in the face of changing regulations.

We are also looking beyond Orange County. We are advocating for more storage capacity throughout California. Whether lobbying at the state level or rallying support for funding to expand reservoirs, recharge groundwater basins, or exploring other solutions, we are committed to capitalizing on the wet years. Wet years should be our insurance policy against future droughts.

Regional planning efforts led by MWDOC are needed more than ever to keep pace with these changes in hydrology and regulations. No one agency can do it alone, and MWDOC works to synchronize all of Orange County's collective efforts. This includes educating the public about the importance of water. Whether engaging schools, community centers, and social media platforms to spread the message that every drop counts and every resident plays a critical role.

As the seasons shift, let us remain steadfast in our commitment. Let us celebrate the abundance while preparing for the inevitable. Let us honor the legacy of those who built our water infrastructure by safeguarding it for generations and recognizing the community for its water efficiency. Together, we will navigate the waters of abundance, ensuring no drop is wasted and no opportunity overlooked.

**Remember: Today's surplus is tomorrow's security!** ○

## Data-Driven Waterscapes:

*Harnessing Insights for Water Loss Control in Orange County*

**W**e may face periodic water shortages here in Orange County, but there is no shortage of water data. The Municipal Water District of Orange County (MWDOC) has been working with Orange County retail water agencies to help them leverage this data to learn about water loss in their systems and ultimately comply with State Water Resources Control Board water loss standards. Through this work, MWDOC has assisted agencies with customer meter accuracy testing, distribution system leak detection, and sophisticated analysis of the data collected through these programs.



By Rachel Davis  
MWDOC



By Kim Manago  
E Source Companies

Water Loss is divided into two categories: Real Loss, which is comprised of leakage, and Apparent Loss, which is water successfully delivered to an end user but not captured in the data collected. Apparent Losses can be due to data handling practices during the meter read, issues with the query of total consumption, metering inaccuracies, and even water theft. All California urban water retailer suppliers must use the American Water Works Association (AWWA) Free Water Audit Software, which divides water losses into these two categories based mainly on assumptions. Given the uncertainty with some of these assumptions, some utilities will choose to firm up their confidence in the division between apparent and real losses by engaging in customer meter testing to better understand apparent losses in their system and/or engaging in acoustic leak detection to better understand real losses in their system. Through MWDOC's shared services program, agencies can proactively engage in both at a reduced cost.

Agencies who choose to perform customer meter testing realize that customer metering inaccuracy is typically the most significant component of apparent losses, and one of the most accurate ways to calculate it is through customer meter testing. To date, MWDOC has assisted nine retail agencies in testing over 2,100 meters, allowing them to better understand the losses in their system. Indeed, an essential step to lowering water losses is understanding where it's occurring (is it leakage or customer metering inaccuracy?) and at what magnitude.

Systems engaging in proactive leak detection recognize that they can immediately reduce leakage while also collecting valuable data to inform future decisions. Since 2019, MWDOC has partnered with 24 Orange County water retailers to detect hidden leaks on their water distribution mains, meter connections, and other fixtures. The acoustic leak detection equipment used by MWDOC technicians can locate leaks before they surface (hidden leakage), shortening their runtime, avoiding collateral property damage, and saving hundreds of acre-feet (AF) of water per year. MWDOC has surveyed



4,078 miles of water mains, located 1,609 leaks, and saved 627.3 AF a year, or roughly enough water to serve 1,800 OC households. Local water retailers have repaired these leaks, increased the efficiency of their systems, and strengthened water supply resiliency. The program has also located 589 leaks on customer property, helping residents and businesses save approximately 57.5 AF annually and \$83,091 annually.

The impact of these programs is twofold: they improve water loss performance and collect data that can be very powerful. Leveraging this data to inform decision-making for capital improvement projects, maintenance programs, and goal setting at the retail agency level is an essential piece of this work. Being able to interpret, analyze, and act based on this data has been a significant focus of MWDOC's Water Loss Control Technical Assistance Program. The work done by E Source Companies LLC through this program has enabled agencies to apply for favorable adjustments to their Water Loss targets, optimize their meter replacement and maintenance schedules, and more accurately report their water loss to the state. MWDOC and E Source staff have presented case studies from this program at over 20 national conferences and regional meetings.

In addition, based on the 2023 AWWA Water Audit Software submissions, nine of the 29 systems required to submit an audit reported leakage less than the modeled technical minimum. The technical minimum volume modeled in the water audit software acknowledges the fact that it is impossible to eliminate all leakage from a distribution system – all systems, regardless of how new or well-maintained the system is, experience some degree of leakage. However, through compiling water audits and working toward the collection and analysis of accurate data, these agencies have demonstrated time and time again that it is possible to achieve levels of leakage below the modeled technical minimum. To continue achieving these low levels of leakage and maintain distribution system efficiency, these agencies will likely need to continue engaging in programs such as leak detection, customer meter testing, collection and analysis of accurate data, and other water loss control activities.

All 30 Orange County Water retailer agencies have participated in at least one Water Loss Control Shared Service or Technical Assistance activity. The program continues to grow to meet the needs of the agencies and is vital to helping agencies prepare for the first water loss standards compliance deadline in 2028. The data collected, analyzed, and leveraged through this program will continue to support and inform Water Loss Control programs across Orange County and serve as a model of the power of field interventions coupled with data analysis. ○

OC San Secondary Clarifier at Plant No. 1 in Fountain Valley.



# 70 Years of Environmental Excellence

Orange County Sanitation District 70th Anniversary

The Orange County Sanitation District (OC San) is the regional wastewater provider that safely collects, treats, recycles, and disposes of approximately 180 million gallons of wastewater from three separate sources—residential, commercial, and industrial. OC San serves 2.6 million people throughout 479-square miles of central and northwestern Orange County.

OC San’s wastewater collection facilities include 388 miles of sewer pipelines, 15 pump stations, and two 100-acre reclamation facilities located in Huntington Beach and Fountain Valley.

Every drop of the treated water, that can be recycled, is made available to our partner, the Orange County Water District (OCWD) for the Groundwater Replenishment System (GWRS). This world-renowned system utilizes advanced processes to treat the water creating a new, reliable, high-quality source of water for one million people.

## 70 and Going Strong

Throughout our 70 years, OC San has worked hard to transform our wastewater treatment plants to the resource recovery facilities that we operate today. OC San recycles and utilizes all byproducts of the wastewater treatment process. To gain a clear picture of who we are, we must look back on our journey.

Our story begins in 1921 with the formation of the Joint Outfall Sewers (JOS). Two of the earliest Orange County cities: Santa Ana and Anaheim made an agreement to construct an outfall



“For over 70 years, we have been steadfast in providing effective wastewater treatment for our community. While this vital service poses its challenges, with the help of our dedicated staff and policy direction of our Board of Directors we are able to not only meet but exceed our goals and commitment to the public. As industry leaders we are constantly anticipating and planning for the future, ensuring we are well prepared for any eventuality.”

Chad P. Wanke  
OC San Board Chairman

extending into the Pacific Ocean where the sewage from these cities first began to flow. Construction took three years to complete. By 1927, the ocean outfall pipe was extended from 800 feet to 3,000 feet. A new screening plant and pumping station were added to the system and the Buena Park Sanitary District joined the JOS.

In 1952, construction began on the new one-and-a-half-mile, six-and-a-half-foot diameter ocean outfall. The outfall is a pipeline that releases treated wastewater to the ocean.

Our history making moment began in 1954 when the County Sanitation Districts of Orange County was created and officially took over the duties of the JOS. This one decision put us on the path toward making us who we are today—the sixth largest regional wastewater agency providing wastewater collection, treatment, and recycling for 2.6 million people in central and northern Orange County.

Over the next seven decades additional infrastructure was constructed to support the ever-developing service area.

Notable improvements include construction of a larger five-mile-long ocean outfall and an associated pumping station for the release of secondary effluent and GWRS brine to the ocean, and a new headworks facility at Plant No. 2 in Huntington Beach. Headworks is the first step in the process where wastewater enters the treatment plant.

In the 1980s, we also established an Industrial Waste Division which was charged with preventing toxic discharges in the system that ended up in the environment. We also began operating under a five-year Ocean Discharge Permit Waiver and completed a 30-Year Master Plan.

In 1998, the Orange County Sanitation District (OCSD) was created by consolidating the former eight individual Districts that made up the County Sanitation Districts of Orange County joint powers authority. This important reduction in administration allowed for a more efficient delivery of services. It also created a single Board of Directors that improved long range planning and made innovation possible.

The 2000s, were truly a time of reuse innovation for OCSD. GWRS, a world-renowned water recycling project was commissioned in 2008. The GWRS is jointly sponsored by OC San and OCWD. The project 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. The first phase of GWRS produced 70 million gallons per

day (MGD) of recycled water reducing the amount of wastewater sent to the ocean.

In 2015, the initial expansion of the GWRS took place. The project increased capacity from 70 to 100 MGD of purified recycled water. This brought us one step closer to 100 percent recycling of our reclaimable flows.

2020 was a time in our nation’s history that will not be forgotten. For just a short time, the world stopped as the pandemic took our community (and world) by surprise. But the pandemic didn’t stop innovation here, we seized the opportunity and rebranded ourselves from OCSD to OC San, a better representation of who we are...a true resource recovery agency working each and every day to reuse all byproducts of the wastewater treatment process.

The final expansion of the GWRS facility was completed in 2023 and now produces 130 MGD, which is enough water for 1 million people! OC San now recycles 100 percent of our reclaimable flows.

This long history of achievement, success, and growth is due to our committed and dedicated workforce and our Board of Directors who set the policy that guide us to provide the public service our ratepayers have come to know and expect.

To commemorate our 70 years of environmental excellence, we are celebrating with a community Open House. ○

**FREE**

# OPEN HOUSE

**Celebrating 70 Years of Environmental Excellence**  
**JUNE 8, 2024 | 9 a.m. - 12 p.m.**  
**Fountain Valley, CA**

Discover the fascinating world of wastewater management through interactive activities, informative booths, entertainment, treats, and guided tours.

**OC SAN** | **70 Years**  
 ORANGE COUNTY SANITATION DISTRICT

For more information, visit [www.OCSan.gov](http://www.OCSan.gov)



# A Clear Future



## Orange County's Path to Lead-Free Drinking Water

In our ongoing commitment to public health and safety, the Municipal Water District of Orange County (MWDOC) is at the forefront of the battle against lead contamination in drinking water. Our dedication aligns with the U.S. Environmental Protection Agency's (USEPA) goal of eradicating lead from all drinking water systems nationwide. This mission is not just about compliance with federal regulations; it's a promise to our community for a healthier, lead-free future.



By Charles Busslinger  
Director of Engineering MWDOC

Since the USEPA first introduced the Lead and Copper Rule (LCR) in 1991, efforts to safeguard drinking water have significantly evolved. The most recent update, the Lead and Copper Rule Revisions (LCRR), issued in January 2021, has set a new standard in our collective quest for clean water. It mandates water systems to complete thorough inventories of service lines for lead presence, including those within private properties, by Oct. 16, 2024.

MWDOC is pioneering this initiative through our Shared Services Program, which offers a collaborative platform for local agencies. This program not only streamlines the process of inventorying service lines but also ensures accuracy and timeliness, all while optimizing resources through collective purchasing power. Thanks to this initiative, all retail agencies within our program are on track to meet the October 2024 deadline.

The significance of this work cannot be understated. California has been a leader in the fight against lead, mandating testing and the replacement of lead service lines ahead of many national standards. In Southern California, our proactive measures have shown that lead service lines are, fortunately, rare. However, complacency is not an option. The draft Lead and Copper Rule Improvements (LCRI), released in December 2023, signal even stricter standards ahead, including a push for 100% lead service line replacement within 10 years and more stringent water quality testing protocols.

These endeavors underscore a pivotal truth: the path to eliminating lead from our drinking water is complex and requires unwavering dedication from all sectors—federal, state, and local agencies, as well as the communities we serve. The challenges are significant, from identifying and replacing lead service lines to addressing other potential lead sources, such as household fixtures.

MWDOC is committed to navigating these challenges with transparency, efficiency, and a spirit of collaboration. Through partnerships like our Shared Services Program and ongoing dialogue with our community, we are making tangible progress toward our goal. Our efforts are a testament to what can be achieved when we come together for a common cause.

As we move forward, let's continue to support these essential initiatives. The health of our community and the safety of our drinking water depends on it. Together, we can realize a future where lead in drinking water is a concern of the past. ○



## Voluntary Protection Program

OC San is proud to announce that after many years and a lot of focused effort, we are recipients of the Cal/VPP STAR certification



"Achieving VPP demonstrates to our employees, contract partners, industry, and community that OC San is committed to safety and health leadership. OC San strives to be a model workplace, that creates a cooperative safety and health partnership of labor, management, and Cal/OSHA for the benefit of all parties."

Rob Thompson  
OC San General Manager

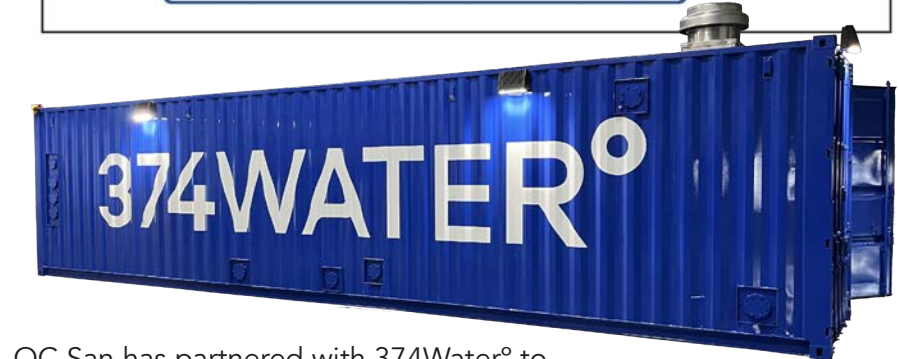
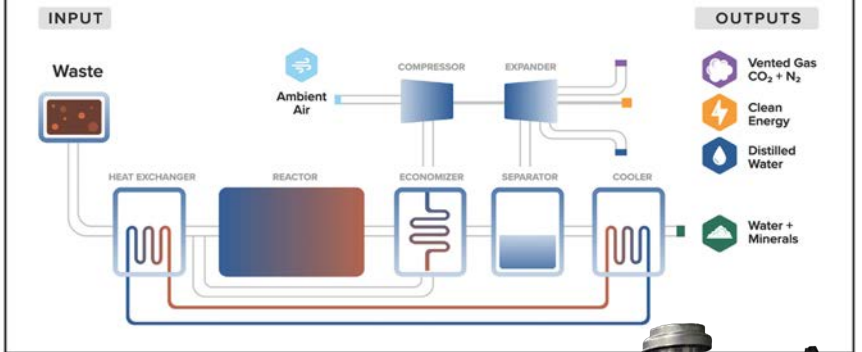
OC San has been striving to receive this certification for several years and underwent comprehensive annual audits to qualify for the program. OC San's effort paid off by OC San receiving STAR status which is the highest level an organization can receive. The program is one of several Cal/OSHA cooperative programs that encourage private and public sector efforts to improve occupational safety and health. Through VPP, Cal/OSHA recognizes workplaces with excellent safety and health management systems and promotes them as model workplaces. To qualify for VPP, applicants must have in place an effective safety and health management system that meets rigorous performance-based criteria and meet all relevant Cal/OSHA standards. Cal/OSHA verifies qualifications through a comprehensive onsite review process. VPP participants are re-evaluated every three years to remain in the program.

## Future Technologies: Supercritical Water Oxidation Project

The future is bright as OC San looks to innovate in all facets of its work to improve protection of public health and the environment while driving down the costs of treatment to benefit the communities we serve. One area of particular focus is how OC San processes solids separated from incoming sewage. Solids treatment and reuse is one of the most difficult and costly aspects of operation. In addition, there are also concerns developing surrounding the presence of Per- and polyfluoroalkyl substances (PFAS) family of chemicals (forever chemicals) and microplastics in the biosolids we create for reuse in agriculture. OC San intends to develop and demonstrate a new technology that would treat raw sludge or finished biosolids that might improve the energy conversion efficiency, reduce trucking volumes on our highways, and destroy forever chemicals and microplastics.

## Supercritical Water Oxidation

**HOW IT WORKS:** AirSCWO™ harnesses an efficient decentralized solution for treating a broad range of waste feedstocks rapidly, continuously, cost-effectively and with unprecedented reliability.



OC San has partnered with 374Water° to build a six-ton-per-day demonstration project called AirSCWO Nix6. This process uses water at a high temperature and pressure to oxidize and break down organic material and complex compound materials like PFAS and microplastics. Benefits are expected to include:

- Reduced solids processing costs
- Support compliance with air emission requirements for methane
- Improved efficiency converting organic material to energy
- Serve as an effective treatment of contaminants of emerging concern beyond PFAS compounds.
- Treat microplastics
- Food waste conversion to energy
- Ensure that solids recovery can be utilized in reducing greenhouse gas emissions

"This project is just another example of OC San's tradition and leadership in environmental excellence," stated Rob Thompson, OC San General Manager. "Once treated, we expect that the compounds are transformed into more basic and benign compounds and ensure enhanced public health including exposure from water and air that would otherwise contain PFAS."

The pilot project is estimated to cost nearly \$8 million and is expected to be operational by the end of 2024. When OC San demonstrates the viability of the AirSCWO Nix6 for wastewater solids treatment, we believe this technology may provide additional opportunities to solve other challenges facing other industries across California as well. ○





# California's Weather Whiplash Highlights Need To Model Orange County In Water Reliability

By Senator Josh Newman  
District 29  
Doug Reinhart  
IRWD Board President

Drought one year, deluge the next. In 2022-2023, California took the one-two punch of both extremes in the span of just a few months.

Orange County effectively managed the record-breaking drought through strategic water security investments. However, other communities were not as lucky. Also, as the drought ended, historic rainfall and flooding subsequently caused billions of dollars in damages in some areas of the state.

This is California's water story — a cycle of boom and bust.

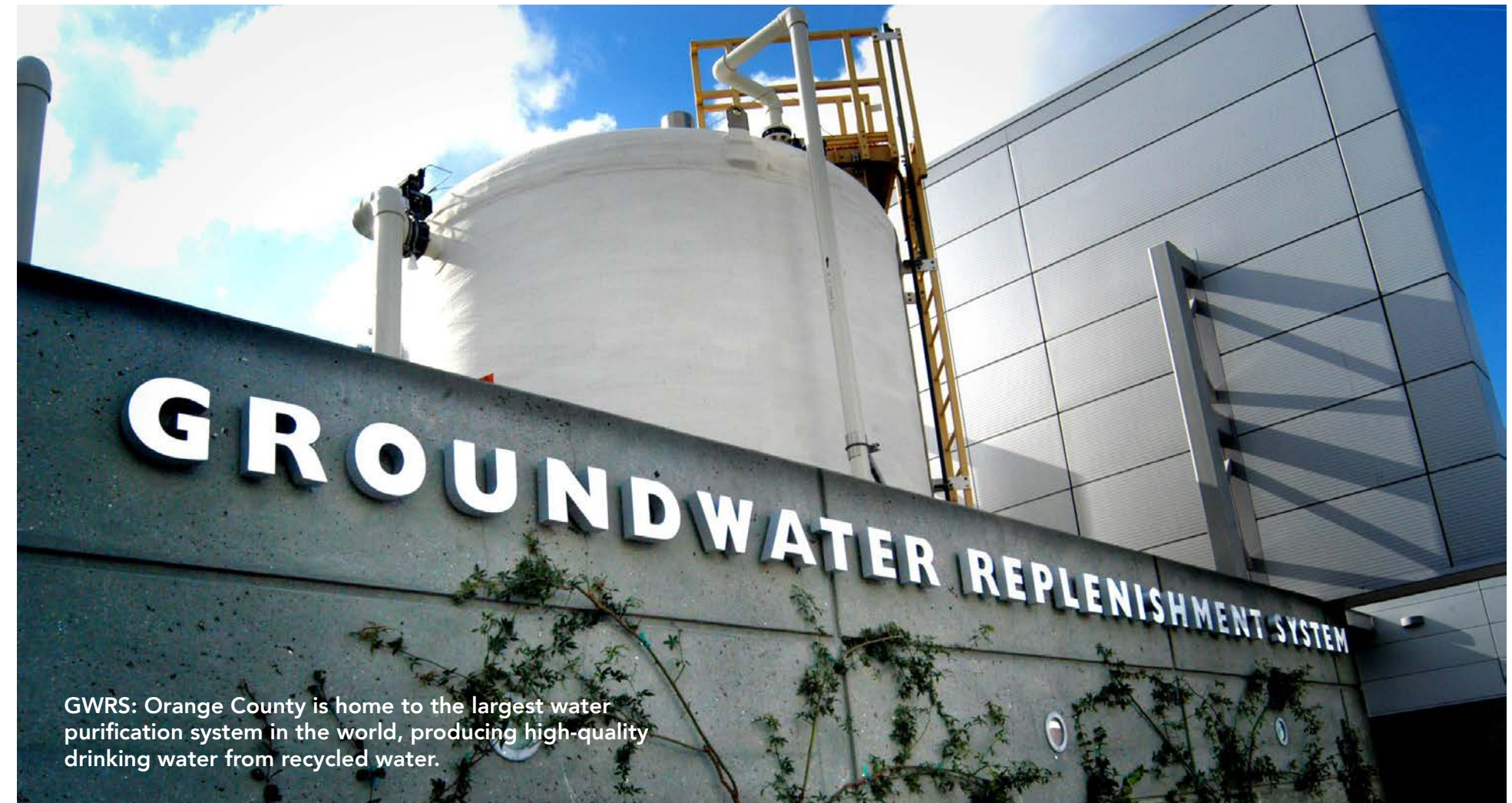
The water infrastructure our forefathers envisioned and built, beginning more than 100 years ago, has enabled California to grow and manage these cycles. This impressive network of storing and transporting water across the state includes important water infrastructure such as Lake Mead, Hoover Dam, the Colorado River Aqueduct, Lake Oroville, San Luis Reservoir, the California

Aqueduct, and the State Water Project. Over the years, it has served us well, but that infrastructure was built for a different time and more temperate climate.

With the reality of climate change and the "new normal" of weather whiplash, we must rethink what California needs to do to ensure we have enough water to meet all our urban, agricultural, and environmental water needs. To secure our water future, we need to take action now.

Now is the time for us to make the water infrastructure investments we'll need to get us through the next 100 years, with a focus on how we can obtain greater water resilience in a more extreme climate.

We need to continue to take innovative approaches to water efficiency, floodwater capture, water storage, and supply diversification — as all of these are key to establishing the resilience we need to overcome our state's widely vacillating weather patterns between drought and deluge.



## Orange County: A Longtime Leader In Water Reliance Innovation

In all of these areas, Orange County and its water suppliers have been state, national, and global leaders, bringing significant innovations to water resource and infrastructure management that deliver reliable water sources to local communities. This is especially true in the areas of water recycling and emergency supply development.

Orange County is home to the largest water purification system in the world for indirect potable reuse — the Groundwater Replenishment System, which produces 130 million gallons of high-quality drinking water every day. A joint project of the Orange County Water District and Orange County Sanitation District, it uses an advanced treatment system to treat wastewater, purify it, and then recharge it into the Orange County aquifer, a drinking water source for all of north and central Orange County.

Water reuse has a long history in our region, dating back to the 1960s when Irvine Ranch Water District began recycling water for irrigation purposes. IRWD then expanded the use of that water over time for a variety of commercial uses, including dual-plumbed buildings, cooling plants for air conditioning, and even ice skating arenas.

IRWD has been a longtime leader in the area of supply diversification, with more than 50 percent of its water coming from local, drought-resilient sources. It's also a state leader in the development of emergency water supplies for communities that also benefit agricultural and environmental water uses.

To accomplish this, IRWD has created water banks by developing more than 500 acres of groundwater recharge ponds that capture floodwater for underground storage during wet periods. The water is eventually recovered for use by its customers during dry periods or emergencies. Future plans call for an expansion of up to 1,300 acres to provide even more resilience in times of extreme drought.

## California Needs To Do More Now

California needs to follow Orange County's example of focusing on and investing in water resiliency. We need to modernize our water infrastructure to withstand our new climate of drier dries and wetter wets. We need to connect our surface and groundwater storage to capture the water in wet weather and use it when it's dry. We need to expand recycled water use and incentivize emergency water supply development to ensure communities have access to drought-resilient supplies. And we need to find ways to ensure water for all of California — to meet our urban, agricultural, and environmental needs.○

# South Coast Water District – Meeting the Needs of the Coastal Community through Local and Regional Water Solutions

In the dynamic landscape of Southern California's water management, the South Coast Water District (SCWD) has emerged as one of the leaders in customer service, water recycling, conservation, water treatment, and implementation of necessary complex coastal infrastructure, shaping not only the future of our coastal community but also setting a benchmark for the entire region. There is a need for a unique level of service in the Southern California coastal communities and SCWD is proud to have carved a niche for itself as a premier coastal agency, driving initiatives that become quality solutions in the face of evolving challenges.

These successes are directly related to the critical thinking and sound decision-making by the current and past SCWD Boards and staff. The current board consists of: President Doug Erdman; Vice President Scott Goldman; Director Joe Muller; Director Rick Erkeneff; & Director Bill Green.



SCWD Board (L to R): Bill Green, Vice President Scott Goldman, President Doug Erdman, Rick Erkeneff, and Joe Muller.

Guided by a goal for a high level of service with continuous improvement (i.e., one percent per day), SCWD's operational prowess is underscored by its impressive track record. The District's lowest water system loss rate in Orange County standing at 4% and zero-tolerance policy for sewer spills, are reflective of its unwavering dedication to environmental stewardship. Moreover, SCWD's reputation as a preferred contract operator for various local agencies speaks volumes about its in-house expertise and professionalism.

Since the 1980s, SCWD has been at the forefront of recycled water usage, diligently seeking opportunities to maximize its benefits. This commitment to sustainability aligns seamlessly with the District's proactive stance on conservation, which pre-

dates state mandates. Through its robust outreach and education programs, SCWD empowers the community to embrace water "conservation as a way of life." SCWD's conservation team has converted 44 sites from potable to recycled water for irrigation, with another 40 scheduled over the next 10 years which will result in SCWD recycling 100% of the sewage that we flow to the Coastal Wastewater Treatment plant.

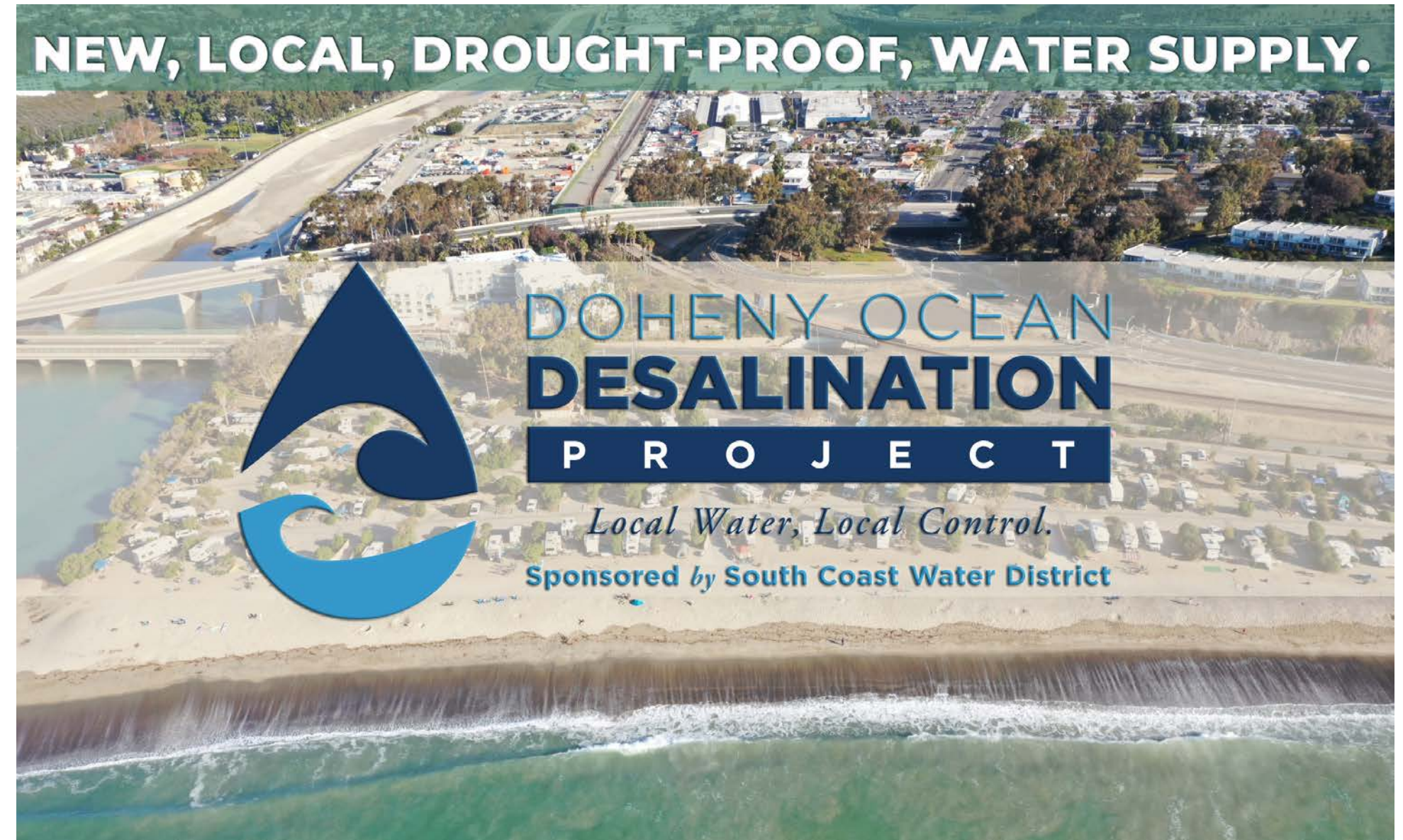


SCWD Conservation Team Conducting a Recycled Water Site Conversion at RH Dana Elementary School in Dana Point.

The recent completion of the \$100 million Tunnel Stabilization and Sewer Pipeline Replacement project beneath the bluffs of South Laguna Beach stands as a testament to SCWD's effective project management. An average of one million gallons per day of sewage was being conveyed through this outdated, unsafe sewer tunnel and a sewage spill of that magnitude would have been catastrophic. With collaboration among the District's Board of Directors and staff, the City of Laguna Beach and neighbors directly impacted by the project, this monumental undertaking demonstrates the District's ability to overcome challenges through value engineering, solid decision-making, and listening to the community.



SCWD General Manager Rick Shintaku speaking at Tunnel Project Ribbon Cutting Ceremony.



SCWD's Directors have been instrumental in championing environmentally responsible projects, such as the Doheny Ocean Desalination project, which epitomizes SCWD's commitment to securing a robust daily and emergency water supply for a South Orange County region that is 90% dependent on imported water. With the Doheny project SCWD is poised to secure a sustainable water future for generations to come. Supported by \$32.4 million in state and federal grants received to-date and approval for participation in the Metropolitan Water District of Southern California's Local Resource Program for nearly \$40 million in incentives, this project represents a significant step towards ensuring cost-effective water resilience for our community and beyond.

Looking ahead, General Manager Rick Shintaku indicates that SCWD's commitment to regional collaboration remains unwavering. With the Doheny project poised to address long-term water challenges, supported by grants and partnerships with regional agencies, SCWD continues to lead by example in driving sustainable water solutions. Through visionary leadership, proactive initiatives, and a dedication to regional cooperation, SCWD stands as a catalyst for a high level of service and continuous improvement in coastal water and wastewater management. ○



Regional Spill Drill organized by SCWD Sanitary Operations team that included the water districts from Laguna Beach, San Clemente, Moulton Niguel, and Santa Margarita.





By Elizabeth Smilor  
Special Sections Writer

## Sites Team Intent on Building Reservoir

Manager Alicia Forsythe Speaks to Regional Water Leaders

It's time has come. Sites Reservoir is a critical infrastructure project for California's changing water supply challenges and it needs to be built, said Sites Project Authority Environmental Planning and Permitting Manager Alicia Forsythe at a regional event.

"Our vision is affordable water, sustainably managed for California's farms, cities and the environment for the future," said Forsythe. "Sites Reservoir will be the eighth largest lake in California when we build it. And I say 'when we build it,' because it is imminent. It is coming."

In her comprehensive presentation at the Three Valley Municipal Water District Leadership Breakfast in Pomona, Forsythe explained how Sites Reservoir, proposed north of the



"Sites Reservoir can be a game changer. If operational, we could have really taken advantage of the last two years, dramatically enhancing deliveries from the State Water Project and storing water for the next dry cycle."

Harvey F. De La Torre  
General Manager MWD OC

Sacramento-San Joaquin Delta, is an off-stream reservoir that will capture and store a portion of stormwater from the Sacramento River — after all other water rights and regulatory requirements are met — and release water to communities, farms and wildlife during drier years.

"This is the natural evolution of water infrastructure. River dams, like those along the Klamath River that are being removed, have lived out their useful life. This is an off-stream reservoir," she said following the event. "We have to build tools for the future to help us adapt to climate change. Sites is just one of these tools."

The Final Environmental Impact Report for Sites was certified at the end of last year and it received judicial streamlining approval from the governor's office, which will move the permitting process through litigation more quickly. Construction is scheduled to begin in 2026 for a 2033 completion.

"Why are we driving so hard? Because it costs a lot of taxpayer dollars. If it's not going to work, then we need to stop spending taxpayers' money," Forsythe said. "This project has been on the books since the 1960s, so let's build it or let's put it on the shelf

and retire it. We see this as a pivotal moment. It's time that we call this to question. It's time that we get this done. It's time to make the tough decisions."

Sites Reservoir, Forsythe explained, will serve as a water bank for communities, agriculture and the environment. Water agencies, such as the Metropolitan Water District of Southern California with 26 member agencies including the Municipal Water District of Orange County (MWD OC) and some Orange County cities, along with irrigation districts, the California Department of Water Resources and the federal Bureau of Reclamation are stakeholders in the project. The state will hold 17% in the reservoir for environmental benefit. The project capacity is smaller than it once was in part to protect endangered salmon and wildlife refuges nearby, she said.

"Sites Reservoir can be a game changer," said MWD OC General Manager Harvey De La Torre. "If operational, we could have really taken advantage of the last two years, dramatically enhancing deliveries from the State Water Project and storing water for the next dry cycle."

Forsythe confirmed De La Torre's sentiment in her talk, saying that if Sites were operational today, the storms of 2023 and

early 2024 would have nearly filled the reservoir, which will have a storage capacity of 1.5 million acre-feet, or enough for about 4.5 million people for a year. California's water supply is expected to decline by 10% over the next decade.

She said the Sites team is also working closely with the neighboring communities and plans to build a bridge across the reservoir to keep the communities connected and to make sure school buses can travel easily to schools in Maxwell from smaller towns. They are still in negotiations with landowners, she said. The most vehement opposition to the project comes from environmental protection groups and fisheries.

Prior to working with the Sites Authority, Forsythe spent over 10 years with the Bureau of Reclamation. There, she oversaw operations in the Klamath and Lahontan Basins, and led the San Joaquin River Restoration Program, the largest federally led river restoration program in the nation. ○

Below: Sites Project Authority Environmental Planning and Permitting Manager Alicia Forsythe addresses an audience of about 130 people at the Three Valleys Municipal Water District Leadership Breakfast in Pomona.



Above: San Gabriel Basin Water Quality Authority (WQA) Executive Assistant/Public Outreach Coordinator Stephanie Moreno, Forsythe, and WQA Board Vice-Chairwoman Lynda Noriega.

# Secure California's Water Future TODAY

Let's invest in climate resilience for a thriving tomorrow



Southern Californians know the value of every drop.

That's why our community leaders are calling for powerful investment in our water infrastructure.

With your support, we can ensure that every community—particularly those of color—has equitable access to clean, safe water now and into the future.

### Benefits:

- Infrastructure revitalization
- Climate adaptivity
- Equitable access

Your voice matters. Learn more about the need for climate resilience investment and how you can support Southern California's water infrastructure resilience.

Visit [socialwater.org](http://socialwater.org) or scan the QR code to get informed.

## YOUR VOICE MATTERS...



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