

CALIFORNIA

WATER

ORANGE COUNTY 2023

Yana Garcia
CalEPA Secretary

TOP PRIORITY: **Climate Resiliency**

*Messages inside from
OC San, MWDOC,
Santa Margarita Water
District and South Coast
Water District*



SCAN FOR
DIGITAL EDITION

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Leading the Way to California Water Resiliency

Welcome to the latest issue of California Water Magazine, which is focused on resiliency. We highlight two inspiring leaders in the field of water management: Yana Garcia, Secretary of California's Environmental Protection Agency and Liz Crosson, the chief sustainability, resiliency and innovation officer from Metropolitan Water District of Southern California.



Charley Wilson

Water management is a critical responsibility, and resiliency plays an important role in helping us prepare for any unexpected events climate change or other environmental factors may bring. By focusing on sustainability our water supply can remain healthy far into the future.

In this issue, we will examine how California's leaders are doing just that. We will explore how Yana Garcia and Liz Crosson are leading their respective agencies in responding to climate change and other environmental threats. Additionally, we will review how their initiatives have been successful in helping to ensure a secure future for California's water resources.

There's plenty of doom and gloom in the news and California's water challenges are serious. But the good news is that positive advances are being made every day through collaboration, creativity, and partnerships.

Thanks to community leaders, like those we highlight here, our region is on the forefront of important efforts to secure water supply resiliency from the impacts of climate change, contaminants, earthquake, 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.

Charley Wilson
Executive Director

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



Yana Garcia was named CalEPA Secretary in August 2022. Above, she is sworn in by Gov. Gavin Newsom as her father Sergio Garcia holds the California Constitution and looks on. Garcia will lead state efforts to combat climate change, improve air and water quality, regulate toxic substances and more. Photos courtesy of the State of California

CalEPA Secretary Yana Garcia Focused on Climate Resiliency

By Elizabeth Smilor
Special Sections Writer

When Yana Garcia was named Secretary of California's Environmental Protection Agency in August, the state was in the midst of a historic drought. About nine months later, dry farmland and communities are flooded, reservoirs are nearly full and mountains of snow are starting to melt.

Needless to say, climate and water supply resiliency are top of mind for the newest CalEPA Secretary.

"What we're seeing is that even our best models don't quite accurately predict the weather whiplash that we're experiencing," said Garcia. "A climate-resilient California is one in which Californians can feel safe in the environment that surrounds them. That means that as we experience intensifying weather extremes, our state and its infrastructure are prepared to manage it so that droughts won't mean a household is without water and our grid will be prepared for extreme heat, even while transitioning to a carbon neutral future. It also means inherently that neither race nor income should determine relative access to that sense of security and the ability to recover from increasingly frequent disasters."

Garcia, who was appointed last year as the first Latina CalEPA Secretary by Gov. Gavin Newsom, oversees the state's efforts to fight climate change, protect air and water quality, regulate pesticides and toxic substances, achieve the state's recycling and waste reduction goals, and advance environmental justice.

"Yana's deep connection to communities, her strong track record as an environmental attorney in holding polluters accountable, and her commitment to bringing diverse interests together make her uniquely matched to the challenges facing California," said Gov. Newsom in announcing her appointment.

Publisher Sean Fitzgerald
Editor Elizabeth Smilor
Art Director Christie Robinson
Contributors Charley Wilson
Elizabeth Smilor

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



As CalEPA Secretary, Garcia leads many departments from water resources to toxic substance control. At left, Garcia speaks at a Coalition for Clean Air event in Sacramento. Above, she addresses the press in the farm community of Dunnigan northwest of Sacramento when Gov. Newsom lifted some drought restrictions.

Photos courtesy of the State of California

California's water supply strategy, released the same month as Garcia's appointment, aims to help California prepare for a possible 10 percent long-term reduction in our water supply by 2040. "That is still a goal worth achieving," said Garcia. "We need to be prepared for a reduction in water supply, which means continuing to expand water reuse and maintaining our focus on conserving water."

The state has also invested billions to enhance the state's water resilience. The plan to modernize water infrastructure includes investments in storage, recycling, desalination, stormwater capture and conservation.

"Despite the heavy rain and snowpack we're seeing now, we always have to be ready for drought, and we have to remain vigilant of water quality impacts caused by the prevalence of contaminants," said Garcia. "The less water we have, the more potent the impact of those contaminants."

As head of CalEPA, Garcia oversees the California Air Resources Board (CARB), the Department of Pesticide Regulation (DPR), the Department of Resources Recycling and Recovery (CalRecycle), the Department of Toxic Substances Control (DTSC), the Office of Environmental Health Hazard Assessment (OEHHA), and the State Water Resources Control Board (SWRCB). She recognizes the importance of partnering with each of these departments and following through on commitments promised with tangible and beneficial results.

"Ultimately, we have to increase access to critical resources," she said. "We do that through comprehensive partnerships, not only with our government colleagues but also through effective partnerships with community-based organizations who really have the trust of so many hard-to-reach residents. It is also important that we retain transparency in our decision-making processes and that we deliver on our responsibility to protect and enhance the environment and the health of all Californians."

Garcia, who served from 2021 to 2022 as Special Assistant Attorney General to California Attorney General Rob Bonta, is nationally known for her work to uplift the voices of those from disadvantaged communities. In her tenure as an Assistant and Deputy Secretary at CalEPA she led three Environmental Justice Task Force Initiatives in the communities of Pomona, Imperial County and Stockton. She also led the program that delivered more than \$1 million in Environmental Justice Small Grants to 28 organizations to combat pollution, improve health outcomes and increase public engagement in some of California's most pollution-burdened communities. That program has now grown to a

multi-year \$20 million investment program to increase capacity in some of the state's most pollution-burdened areas.

"One of biggest lessons I learned early in my career is that all too often communities, particularly low-income communities and communities of color, are faced with this false choice between economic growth and stability, and access to clean, safe jobs and environmental quality," she said. "Our communities deserve both. I tend to approach decisions by taking a big step back from the notion that economic growth should come at the cost of environmental quality and health, or vice versa."

Garcia is proud of her accomplishments on the environmental justice front because she's witnessed the movement grow in power and influence in such arenas as drinking water quality, pollution, and the oil and gas industry. Now, she is looking forward to crafting policy implementation strategies with a wide array of stakeholders.

"It's so important to notice who is at the decision-making table, and who is absent. My experience has been focused on marginalized communities who have all too often been left out," Garcia said. "But I'm equally committed to understanding where we may have a business perspective lacking or that of any group who may be impacted by an issue."

In tackling the state's water supply challenges, Garcia aims to strike a balance between interests to protect the environment, human health, and economic growth in the many regions of the state from rural to urban.

"I think municipal entities, water agencies, technology drivers, workforce developers, and more are necessary in developing the kind of water solutions that we're going to need to deliver clean, safe, and affordable drinking water to all Californians," she said. "We cannot and should not do this alone. To meet the goals of the human right to water and ensure the water supply that underpins our economy, we must put old paradigms behind us and all show up to bridge the gap between our water supply and demand to create a climate-resilient California." ○





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. Pictured above a secondary clarifier at Plant No. 1 in Fountain Valley.

We Are OC San

Protecting Public Health and the Environment



"As essential, critical infrastructure, OC San continues to meet the mission of protecting public health and the environment. Good planning and collaboration enable us to keep our facilities operating without interruption. Our staff is knowledgeable, highly trained, and qualified. They understand the importance of planning for every eventuality, and we are fully prepared to ensure that we can continue to provide effective wastewater treatment now and in the future."

Chad P. Wanke
OC San Board Chairman

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 from 20 cities, two sanitary districts and two water districts within OC San's 479 square mile service area of central and northwestern Orange County and the unincorporated areas of the county.

The majority of this treated water is recycled with our partner, the Orange County Water District through the Groundwater Replenishment System (GWRS). This system uses advanced processes to treat the water creating a new, reliable, high-quality source of water for one million people.

MEET OUR NEW GENERAL MANAGER

OC San has a new leader at its helm. Robert (Rob) Thompson is OC San's new General Manager. Rob replaces James (Jim) D. Herberg who retired on Feb. 9, 2023, after a 30-year career at OC San.

Rob has been with OC San for 27 years, most recently as the Assistant General Manager overseeing the Operations, Maintenance and Engineering Departments.

Rob came to OC San in 1995 as an Engineer in Operations and Maintenance. He has served in many capacities for OC San including Manager of the Process Controls Division to computerize the pump stations and treatment systems; Engineering Manager overseeing the instrumentation shops, electrical shops and power generation plants and overseeing Asset Management and Engineering Planning. He also served as the Director of Engineering responsible for OC San's \$2.7 billion Capital Improvement Program and as Director of Operations and Maintenance.



"I am honored that the Board of Directors have chosen me to lead such a forward thinking and innovative organization. With the support of the Board and our staff, I am confident that I will be able to continue OC San's history as an industry leader while continuing to provide the level of service we have committed to for our community."

Rob Thompson
OC San General Manager

CONTINUING THE TRADITION OF INNOVATION

In a tradition of innovation, OC San has partnered with 374Water Systems Inc. (374Water) in a new technology called Air Supercritical Water Oxidation (AirSCWO) that treats solids, a byproduct of the wastewater treatment process.

Every day OC San collects and processes approximately 180 million gallons of wastewater, resulting in concentrated solids called sludge and scum that can be turned into methane-rich renewable gas and biosolids that provide multiple beneficial uses.

To address contaminants of emerging concern, including PFAS, microplastics, pharmaceuticals and others in the wastewater stream, OC San 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 complex compound materials into more basic and benign compounds.

Once built, AirSCWO Nix6 can provide opportunities to solve other challenges facing OC San, including:

- Costs of solids processing
- Air emission requirements for methane and power generation equipment
- Treatment of emerging contaminants such as PFAS compounds
- Treatment of microplastics
- Food waste utilization
- Efficient use of OC San's treatment plant properties and
- Enhance solids recovery

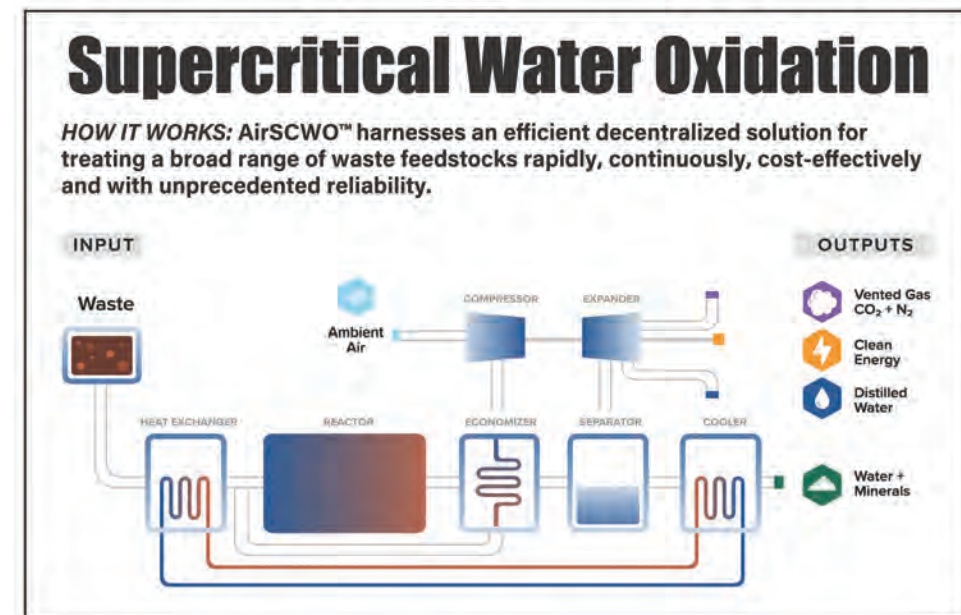
WE ARE ENVIRONMENTAL STEWARDS

At OC San, we have a legacy and mission of being environmental stewards and ensuring that our beaches remain clean and safe. Each year, Heal the Bay Beach Report Card grades over 500 beaches along 840 miles of coast based on water quality. OC San diligently monitors Orange County's beaches for decades to ensure that our beaches are safe for recreation and the marine life. In 2022, Orange County received stellar marks with 99 percent of beaches receiving A and B grades during the summer dry season, 95 percent receiving A and B grades during the winter dry season, and 66 percent receiving A and B grades during the wet weather season. Orange County also had the most beaches on the Honor Roll for a second year in a row. To make the Honor Roll, a beach must be monitored weekly all year and must receive an A+ for all seasons.



The Heal the Bay Beach Report Card grades over 500 beaches along 840 miles of coast based on water quality.

The project is underway with an estimated cost of \$8.7 million and is expected to be complete in the winter 2024. OC San would like to thank Congressman Lou Correa for partnering with us on this technology by providing \$3.45 million in community funding.



To ensure the protection of marine life and public health and as part of our National Pollutant Discharge Elimination System (NPDES) permit, OC San has maintained an extensive ocean monitoring program for over four decades. As part of this effort, we perform three types of monitoring: compliance monitoring, regional monitoring, and special studies. Our staff collects water samples from the surf zone along 21 miles of coastal Orange County stretching from Seal Beach to Crystal Cove.

For nearly 10 years we have received the National Association of Clean Water Agencies (NACWA) Peak Performance Award. The Peak Performance Awards recognizes NACWA member agency facilities for excellence in permit compliance.

"It's an honor to be recognized by NACWA for 100 percent compliance with NPDES permits. This recognition highlights the work of the men and women who work tirelessly every day to help OC San meet our mission to protect the public health and the environment," stated Rob Thompson, OC San General Manager.

In addition, OC San has partnered with the County of Orange, cities of Newport Beach and Huntington Beach, and Irvine Ranch Water District over the last 20 years to divert dry weather urban runoff into our sewer system to improve beach water quality.

We then take these samples—along with other water, fish, critters, ocean sediments, biosolids, and air samples— and conduct over 100,000 tests annually at our nationally certified laboratory facility in Fountain Valley.

This is a true testament to OC San's effective collection and treatment process, our extensive dry weather urban runoff diversion program, and our ocean monitoring efforts. ○



www.ocsan.gov | @OCSanDistrict





MWDOC leak detection technicians use listening equipment to find hidden leaks.



Capturing Each Drop

MWDOC's Leak Detection Program for Retailers is Saving Water and Money

By Elizabeth Smilor
Special Sections Writer

Recognizing every drop of water matters – drought or no drought – the Municipal Water District of Orange County (MWDOC) offers a Leak Detection Program to water retailers that has plugged more than 1,000 leaks countywide and conserved more than 170 million gallons of water per year.

"We have a history of helping our member agencies conserve water through customer incentive programs. It made sense for us to assist them in making their own water distribution systems as efficient as possible," said MWDOC Water Loss Control Programs Supervisor Rachel Davis.

Since the program launched in July 2019, MWDOC has partnered with 20 different Orange County water retailers to detect leaks in their water distribution mains, meter connections, and other fixtures. The five-member leak detection team uses acoustic equipment to listen to every mile of pipeline selected by the retail water provider and can pinpoint the exact locations of underground leaks and quantify the amount of water loss. Subsequently, the retailer repairs the leaks, stopping that loss and putting that conserved water to beneficial use.

"Mesa Water is pleased to be a continuing participant in MWDOC's Leak Detection Program, which has saved \$30,000 in water costs per year since 2019 and has allowed us to pass along nearly \$17,000 in savings to our customers on their water bills," said Mesa Water General Manager Paul E. Shoenberger, P.E. "We appreciate MWDOC's leadership and forward thinking with this proactive program."

MWDOC has surveyed 3,160 miles of water mains, located 1,369 leaks, and saved more than 172 million gallons of water per year, or roughly enough water to serve more than 1,500 Orange County households. Finding and repairing these leaks has saved the retail agencies \$425,975 annually in imported water

purchases and local groundwater production costs. The program has also located 190 leaks on customer property, helping residents and businesses save approximately 14 million gallons a year and \$59,765 annually.

"South Coast Water District (SCWD) is a proud member of MWDOC's Leak Detection Program, and the data speaks for itself. The program has helped our efforts to achieve and maintain water loss levels at 9.2 gallons per connection per day (gpcd). In identifying leaks on both the customer and distribution sides, the program is also a valuable component of our asset management strategy," said SCWD General Manager Rick Shintaku. "The technicians and program management staff are responsive and thorough ensuring that surveys have covered our entire service area twice, leading to the discovery of over 120 leaks that have been investigated and repaired to realize significant water savings."

State Water Resources Control Board regulations require retail agencies to reduce real water loss in accordance with an economic model specific to each agency. The compliance date is 2028.

"MWDOC has taken the lead in helping our member agencies and other retailers to understand the requirements and take practical steps to make a difference and save water in their systems," said Davis. "We are able to take a regional approach and supply a trained team for the whole county."

The Leak Detection Program began its fourth year of surveys on July 1, 2022, and will complete more than 1,300 miles this year for 10 different Orange County water retailers, the program's biggest year yet. ○



Report Offers Ways to Strengthen Workforce

MWDOC's Water Energy Education Alliance Brings Industry and Education Leaders Together

By Elizabeth Smilor
Special Sections Writer

A new water and wastewater report, more than a year in the making, emphasizes the need for equity, opportunity and experience in the industry.

"The report gives us quantifiable data that can help industry and education grow and strengthen our efforts in four areas: awareness, diversity, partnerships and skills," said Tiffany Baca, executive director of the Water Energy Education Alliance (WEEA). "Now, we have a roadmap to guide our efforts."

The report recommendations emphasize strengthening partnerships between community colleges and water and wastewater providers to illuminate job opportunities, develop cooperative work experiences, and address equity gaps. In addition to an in-depth labor market analysis, the report includes an industry survey with more than 500 responses and interviews with 20 community colleges across the state who offer water/wastewater programs.

The report was researched and authored by Centers of Excellence for Labor Market Research (COE) in partnership with WEEA, which is led and administered by the Municipal Water District of Orange County (MWDOC). WEEA is a statewide coalition of education and industry leaders working together to build and strengthen quality career pathways to water and energy jobs for all California students. With more than 175 organizations actively participating, the Alliance is made up of equal parts education and industry professionals.

"This is one of our major projects that has come to fruition," said Baca, who is also the public affairs manager for MWDOC. "I've been in industry

for 15 years and we all know more people are eligible to retire now and in the near future. This is the first time as an industry, we've had to actively recruit."

To spread awareness, WEEA has distributed more than 25,000 water and energy career brochures statewide in high schools and community colleges and plans to distribute many more. Additionally, to enhance educational programs, WEEA offers teacher trainings. Since 2020, WEEA has hosted four workshops and 95 in-class projects with 153 teachers who each have about five classrooms of 30 students each. Thus, the program has reached about 23,000 students.

"WEEA provides an opportunity for water industry and education professionals to work together to address our workforce challenges," said MWDOC Board President Megan Yoo Schneider. "This collaborative effort can have a meaningful impact."

The report was informed by an industry advisory of members from MWDOC, The Metropolitan Water District of Southern California (Metropolitan), Baywork, IEWorks, the Center for Water Studies at Cuyamaca College, and San Diego County Water Authority. WEEA is sponsored by Metropolitan, Los Angeles Department of Water and Power, Eastern Municipal Water District, the Water Replenishment District, and Western Municipal Water District. Other partners are the California Environmental Education Foundation and California Community Colleges.

For more information on WEEA, to download the full report, or a career brochure, go to www.mwdoc.com/WEEA



Liz Crosson, Metropolitan's first chief sustainability, resiliency and innovation officer, will be working with the Board of Directors on a Climate Adaptation Master Plan. Crosson, shown below, also talked about habitat restoration at places such as Diamond Valley Lake in Hemet, at left, and Copper Basin Reservoir in San Bernardino County, at right. Homeowners can conserve with drought-tolerant landscaping, shown above.

Metropolitan Adapting to Climate Change to Secure Southern California's Water Supplies

By Elizabeth Smilor
Special Sections Writer



Liz Crosson
Chief Sustainability
Resiliency and Innovation
Officer Discusses Water
Agency's Priorities

As the largest supplier of treated water in the nation, the Metropolitan Water District of Southern California always has considered the big picture to ensure water supply resiliency. Today, that big picture is an action-packed motion picture as climate change brings more frequent periods of extended drought, wildfires and atmospheric rivers.

"A lot of the decisions we made in the past were based on historic data and that worked for us," said Liz Crosson, Metropolitan's first chief sustainability, resiliency and innovation officer. "With the unpredictability of climate change and our hydrology today, we need to incorporate this evolving forward-looking, climate-forecasting science and try to better anticipate what the future will look like as opposed to making decisions based on the past."

Crosson, who joined the district in March 2022, leads Metropolitan's aggressive agenda and plan to reduce its carbon footprint and strengthen its resiliency to climate change. Metropolitan serves 26 public water agencies — cities, municipal water districts and one county water authority — that then deliver supplies directly or indirectly to people in Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties.

"While ensuring a reliable water supply for 19 million Southern Californians is the core of our mission, we can't achieve that mission without innovation and environmental sustainability," said Metropolitan General Manager Adel Hagekhalil. "Liz Crosson brings significant leadership experience and knowledge to Metropolitan that will help us confront the many environmental and infrastructure challenges we're facing due to our rapidly changing climate."

Before coming to Metropolitan, Crosson represented Los Angeles Mayor Eric Garcetti on water and climate issues, most recently as his director of infrastructure. She is also an adjunct instructor in urban sustainability at the University of Southern California's Sol Price School of Public Policy. She spoke recently about her role and Metropolitan's priorities to ensure water reliability for future generations.

As Metropolitan's first SRI officer how do you define success in this new role?

Sustainability, resilience and innovation are not new to Metropolitan, but creating this office is really about integrating these initiatives and elevating them in a way that showcases the leadership within Metropolitan. It is an opportunity to provide this connective tissue between all our departments and create this umbrella of sustainability in everything that we do.

How does climate change challenge the water agency?

I think water agencies have been very successful in adapting to drought cycles. We've worked really hard to build our systems to adapt to dry periods of the past. What we're seeing now is challenging us in a new way. Not only are those droughts longer and more severe, like the ones we've seen in the last decade, but we're now seeing this whiplash effect between extreme dry and wet years that makes water management much more difficult. We need to adapt to these changing conditions accordingly. We need to also think about the impacts of hotter temperatures on the amount of runoff we can expect and when we can expect that runoff. Wildfires also impact some of our source watersheds and the subsequent runoff of sediment can impact water quality downstream. These cascading impacts are demanding our attention right now. We are taking a holistic look at those climate risks so we can adapt our programs, investments, operations and our infrastructure.



At the request of the Board of Directors, Metropolitan is creating a Climate Adaptation Master Plan. What are the top three goals in this process?

First, we need an inclusive process that builds a common understanding between our board, staff and member agencies. Metropolitan is committed to reliability and equity among our agencies, so it is imperative that we build this system resilience together.

Second, we need to develop objective criteria to evaluate how we're going to adapt to this changing climate. The criteria will include resilience for our system, affordability for our customers and financial sustainability for the region.

Third, we need near-term, no regrets projects to immediately improve the flexibility and connectivity of our water system and produce

additional efficiency as a region. The Climate Adaptation Master Plan is a long-range plan, but we need to come away with some immediate projects, particularly those that help to increase water supply reliability for our State Water Project dependent areas. These areas were more vulnerable during the recent California drought because, due to limitations in our distribution system, we were only able to deliver them water from the State Water Project, which was in very limited supply. The nearly 7 million people who live in these areas experienced shortages and emergency water conservation measures in 2022 and early 2023. So, connecting that area to other sources of

(See **LIZ CROSSON**, Page 13)



The core teams on the front lines keeping the District operating successfully – Sanitary Operations (top right) and Water Operations (bottom right). The project team will complete the multi-million-dollar Sewer tunnel (center) this year. And recycled water with partners like Laguna Cliffs Marriott (left) is key to our conservation efforts.

South Coast Water District

Using Teamwork and Levels of Service to Tackle Coastline Challenges

How does a “small” agency along the California coast measure up to the “big” challenges of managing our most precious resource and the necessity of community partnership? Teamwork. Seriously? It can’t be that simple. But it is. Water is critical to sustaining all our lives so the sustainable management of this abundant, yet finite, resource cannot rest on the shoulders of one person, department, agency, city, or region. With Mother Nature’s constant reminders of drought and wildfires on one end and storm-induced floods and erosion on the other, adaptability, coordination, and partnership is not only how we survive but more importantly how we thrive. South Coast Water District, the “small” agency on the Coast, understands the challenges and seeks to lead the way with appropriate solutions. Teamwork with the goal of maintaining our commitment to a high level of service is what fuels our success.

What does a “high level of service” look like?

- 1. Maintenance goals** that keep our infrastructure in reliable, sustainable, and environmentally safe working condition. This means zero-tolerance for sewage spills.
- 2. Minimizing water loss.** Being aggressive in overall water use efficiency and a leader in water system loss control, by maintaining, or improving, our 4 percent loss rate and proactive asset management. Working with our regional partner Municipal Water District of Orange County (MWDOC) on executing a leak detection program that has helped to achieve our water loss levels at 9.2 gallons per connection per day (gpcd), well below the Orange County (22.2 gpcd) and Statewide (32.8 gpcd) averages.
- 3. Maximizing water use efficiency.** Accomplished through a combination of conservation and recycling, we strive to get the most use out of every single drop. With over 40 years of delivering Recycled Water solutions to the parks, resorts, HOAs, and common areas in our District we will continue to expand this network to every feasible location within our boundaries until the network is fully realized. We maintain a Drought Response Task Force and a robust potable water irrigation runoff Water Patrol monitoring program to ensure that our customers are conserving every day, not only in times of drought.

- 4. Championing our Coastline Sustainability Program.** Protecting our watershed, beaches, and ocean is at the core of all operations. The SCWD operations team offers a variety of complimentary programs that include Diversion, Urban Runoff, Watershed, and Reservoir Management, and regional partnerships that ensure we’re managing our resources in a holistic manner that considers all impacted stakeholders.
- 5. Effectively managing Capital Improvement Projects.** From small pipeline replacements to a million-dollar sewer tunnel to the flagship Doheny Ocean Desalination Project we study, plan, and implement projects to proactively address the needs of the District and everyone we serve.
- 6. Lastly, a suite of water management solutions that equates to a balanced water portfolio.** SCWD believes that a diverse portfolio of water supply sources and enhanced water conservation is needed throughout our region to remedy the droughts and emergency supply needs during water system interruptions. Our portfolio planned for the foreseeable future includes brackish groundwater desalination, indirect potable reuse, direct potable reuse, ocean water desalination, and stormwater capture.

Like many California public agencies, SCWD grapples with aging infrastructure, a changing workforce, and water supply challenges; coupled with managing and protecting our precious coastline and its varied topography, sea level rise causing beach erosion and wave impacts, and seasonal peaks in demand that ebb and flow with tourists; there are times when the challenges can seem daunting. We always fall back on teamwork. Whether it’s our internal teams that are in the trenches every day, providing assistance to a neighboring agency in a time of need, or our regional teams that help come up with county-wide solutions, we’re grateful to be able to call California home and help to manage its most treasured resource. ○



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FOR WATER-SAVING TIPS & REBATES





The Groundwater Replenishment System (GWRS) is a water recycling project jointly sponsored by OC San and the Orange County Water District. The GWRS will create enough new water for nearly one million residents in north and central Orange County. Photo courtesy of Bob Bell

We are Leaders History in the Making

It's official! OC San is now recycling 100 percent of our reclaimable flow. Recycling 100 percent of reclaimable wastewater flows is an industry first and unheard of with other wastewater recycling projects. This expansion maximizes water recycling efforts and increases drinking water supplies for the region.

OC San is sending all the water we possibly can to our partner at the Orange County Water District (OCWD) for our joint project, the Groundwater Replenishment System (GWRS), the world's largest water purification system for indirect potable reuse.

The GWRS is a collaborative effort of OC San and OCWD. A world-renowned water recycling project, the GWRS takes treated wastewater from OC San that would otherwise be sent to the Pacific Ocean and purifies it using a three-step advanced process consisting of microfiltration, reverse osmosis, and ultraviolet light with hydrogen peroxide.

The result is high-quality water that is pumped to recharge basins in Anaheim where it naturally percolates into the Orange County Groundwater Basin and becomes part of the drinking water supply for 2.5 million people in north and central Orange County. GWRS water is also sent to injection wells located along Orange County's coast to create a seawater intrusion barrier that protects groundwater supplies.

The remainder of the treated wastewater and brine is safely released to the Pacific Ocean five miles offshore.

Through this innovative partnership with OCWD, OC San provides approximately 170 million gallons a day (MGD) of treated wastewater to GWRS, which produces up to 130 MGD of purified water for residents of Orange County. This is enough new water for nearly one million residents in north and central Orange County.

The final expansion is 15 years in the making and is a great accomplishment for both agencies and Orange County. Read all about how we were able to make this a reality at www.ocsan.gov or at www.ocwd.com/gwrs/.



www.ocsan.gov | [@OCSanDistrict](https://twitter.com/OCSanDistrict)



Metropolitan supplies water to 19 million Southern Californians and also preserves habitats around reservoirs such as Copper Basin, shown above, that support wildlife such as the red-tailed hawk shown at right. Metropolitan encourages conservation and efficiency as the region adapts to climate change.

(LIZ CROSSON, Page 9)

water is a priority so that we don't have this issue during future dry periods when our SWP supplies are extremely limited.

Another big piece is doing everything we can in terms of conservation and efficiency. That is always going to be our most affordable option to secure our water supplies. The region has already done really well on water conservation and efficiency, so it's just figuring out any additional opportunities and what the gaps are. We have to embrace conservation as our way of life whether it's raining or it's not.

What's the role of technology and innovation in climate adaptation?

Innovation is so exciting right now. What we're facing in terms of climate change is really inspiring a lot of innovators to look for new ways to track and measure our water use, to eliminate waste, to sequester carbon and to track our greenhouse gas emissions. There is also a lot of innovation in the energy sector. As a large water wholesaler, about 90 percent of our emissions are from electricity use alone, so we're looking at many ways to use renewable energy. There are a lot of unique opportunities around this water-energy nexus and ways we can be more sustainable overall.

As a water provider how do you balance affordability and sustainability?

I really think affordability and sustainability go hand in hand. Sustainability is all about ensuring what we do and use today doesn't

take away from future generations. So, many of the actions that we take under that sustainability umbrella are actually about reducing waste, using resources more efficiently, and considering the full life-cycle costs and benefits of our actions. A sustainable solution can be affordable when you look at its value over the span of its life cycle.

Metropolitan has a long history of habitat preservation. What are some of the initiatives happening now?

Metropolitan has helped preserve over 30,000 acres of habitat. For example, I recently visited the reserve near Diamond Valley Lake in Hemet and the wildflowers are incredible. This kind of wildlife and habitat preservation also provides a great space for local communities, where people can experience nature first hand.

Metropolitan also purchased four islands in the Sacramento-San Joaquin Delta. The Delta sits at the hub of the distribution system bringing water from the northern Sierra, south to Southern California and its health is critical to the reliability of our water supply. We're looking at opportunities to restore these historic wetlands to preserve habitat and wildlife and also protect the fresh water corridor within the Delta. There is a lot of subsidence in the Delta and we're seeing some pretty severe sinking of those islands that can impact water quality and cause other issues. We're protecting both the habitats and the fresh water corridors we rely on. ○



The Drought is on a ‘Rain Delay’

Santa Margarita Water District Focusing on Local Supply

THE CLIMATE

is the long-term weather pattern in a region, typically averaged over 30 years.

WEATHER

is the temperature and other outside conditions (such as rain, cloudiness, etc.) at a particular time and place.

DROUGHT

is a prolonged period of abnormally low rainfall, leading to a shortage of water.

This winter's storms dropped over 25 inches of rain on the Santa Margarita Water District service area. Compare that to 2022 when we received just 10 inches of rain for the entire year and recorded the driest January through March on record. The truth is, one drenched year cannot make up for several years of drier, hotter weather.

It was New York Yankee great, Yogi Berra, who famously said, “It ain’t over ‘til it’s over.” If he were around today, he might be talking about California’s cyclical climate. And he would be right — it’s not over.

But what if it’s never really over? Rather, what if we changed our mindset and considered the drought a rain delay? Dry conditions will be back, it’s just a matter of when. If we all plan (and plant) for the dry years, we can celebrate the wet years with super blooms and increase water storage.

The rain certainly helped increase water storage around the state, but no one is suggesting our water supply concerns are over here in southern Orange County. We are still importing virtually all of our drinking water supply from the State Water Project and the Colorado River. And while these supplies are improved, those improvements are not permanent. We must continue our efforts at efficient use of water and conservation. If the



Santa Margarita Water District’s Gobernadora Multipurpose Basin south of Cota de Caza, shown above and at left, captures and naturally treats urban runoff and storm flows, and uses the urban return flows to help meet irrigation demands in the nearby community. At right, Upper Oso Reservoir stores recycled water for use during hot, dry months.

“rain delay” is lifted in the next few weeks and months and we revert to our normal, dry climate, we want to be prepared.

The District, in an effort to be prepared for the return of dry conditions, has established several goals. The first and perhaps most important is to develop a locally controlled, locally sourced, locally managed supply of drinking water. We are working toward having 30 percent of our overall supply — enough to meet all our indoor demand — from local sources by 2030. Another important goal is ensuring reliability by having a six month emergency supply by that same date. And in the area of efficiency, our 2030 goal is to recycle 100 percent of our wastewater to ensure supply for outdoor irrigation, construction, and ultimately, as part of our potable supply.

Right now, recycled water storage in our local reservoirs is up by 274.6 million gallons since Jan. 1, 2023. The region’s newest reservoir, Trampas Canyon, located off Ortega Highway, saw a 91.5-million-gallon increase in volume as it continues to fill up toward a total capacity of 1.6 billion gallons. The Upper Oso Reservoir, affectionally known as Boy Scout Lake off CA-241 and Los Alisos, increased by 165.7 million gallons. The district’s smallest reservoir, Portola, located in Coto de Caza, increased by 17.4 million gallons. All three reservoirs are seasonal storage, meaning that they store recycled water in the cooler, rainy months for use in the dry, hot months when it’s needed. SMWD typically stores 2-5 million gallons of recycled water a day in its three open-air reservoirs, but



an additional 150 million gallons was able to be stored because of the rain and conservation actions by our customers.

So, we can all enjoy this “rain delay”, but we need everyone to find ways that they can be more efficient in water use around their homes while SMWD is making preparations to ensure that we’re ready when things get back to “normal.” ○

For more tips and information about efficient water use in and around your home, visit www.smwd.com/Drought





HEAR FROM TOP WATER LEADERS



What Matters
Water TV & Podcast

EPISODES

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

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

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

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

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

#6 | **Heather Dyer**, GM, San Bernardino Valley Municipal Water District; **Sandra Kerl**, GM, San Diego County Water Authority; **Joone Kim-Lopez**, GM, Moulton Niguel Water District; **Kris Murray**, Chair, Santa Ana Regional Water Quality Control Board

#7 | Sites Reservoir and the Future of California Water Storage

#8 | What's Next for Metropolitan Water District

#9 | A Collaborative Approach to Colorado River Management

#10 | How Long Beach Utilities is Building a Sustainable Community

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