

CALIFORNIA

WATER

INLAND EMPIRE 2023

Yana Garcia
CalEPA Secretary

TOP PRIORITY: Climate Resiliency

*Messages inside from
IEUA, Western Water,
Eastern MWD and San
Bernardino Valley MWD*



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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 the Inland Empire'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.

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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." ○





IEUA Focus: A Long-Term Resilient Water Supply

By Elizabeth Smilor
Special Sections Writer



“IEUA continues to stay at the forefront of innovation by exploring real solutions through collaborative partnerships that will hold a lasting effect to increase and store recycled water supplies, aiding in the overall resource resiliency for the region.”

Shivaji Deshmukh, P.E.
IEUA General Manager

The goal remains the same. Yes, the rain and snow fell. The Inland Empire Utilities Agency (IEUA), serving western San Bernardino County representing a population of 935,000 residents and other regional water suppliers are receiving much more water and reservoirs are filling. The short-term outlook is bright. However, IEUA’s focus on long-term supply and resiliency investments remains unchanged.

“IEUA is committed to investing in resources that help to alleviate the effects of drought and provide practical solutions to water supply issues in our region,” said IEUA General Manager Shivaji Deshmukh. “Overcoming persistent, cyclical drought requires a unified effort between water suppliers, water retailers, and residents. We applaud the continued flexibility and water-wise efforts of the region as we navigate California’s water supply challenges to ensure a safe, plentiful water supply is available for future generations.”

One of the most critical components of the water resources management strategy for IEUA and the Chino Basin is water recycling. Highly treated recycled water is a key resource for diversifying local supplies and improving Southern California’s long-term water resilience.

Currently, IEUA receives over 50 million gallons per day of wastewater. This water is treated pursuant to California’s Title 22 regulations and is distributed throughout the service area and used for agriculture, municipal irrigation, industrial uses, and for groundwater replenishment.

Delivering more than 30,000 acre-feet per year (AFY), IEUA’s recycled water program enhances groundwater by improving the quality of the Chino Basin aquifer and provides a drought-resilient supply that helps mitigate the impacts of regional and statewide water supply challenges.





Recycled water is a critical component of IEUA's resource management. IEUA's recycled water program delivers more than 30,000 APY. The Agency is currently expanding the capacity of RP-5, shown above and at left.

Recognizing that the future of the region's resiliency relies on local reliability, IEUA is growing its recycled water capacity with the expansion of Regional Water Recycling Plant No. 5 (RP-5), which has been in operation since 2004. RP-5 currently only treats liquids and has a capacity of 16.3 million gallons per day (mgd). The RP-5 Liquids Treatment Expansion project will expand RP-5's liquid treatment capacity to 22.5 mgd and will include infrastructure for RP-5's ultimate buildout to treat an average flow of 30 mgd and a peak flow of 60 mgd.

In another effort to increase the supply and use of recycled water, IEUA and the City of Rialto created a partnership in which Rialto will sell a portion of its unused recycled water supply to IEUA for a term of 50 years. This collaboration will create a new local water supply for the Chino Basin that would otherwise be sent to the Santa Ana River. This partnership received the inaugural Carmen Ramirez Reward for Equity from the Southern California Association of Governments (SCAG) in April 2023.

"Through this purchase agreement, the City of Rialto will receive financial compensation for a critical resource that is currently

underutilized," said Deshmukh. "This recycled water resource from Rialto will help to ensure that our region can continue to develop local water supplies and increase our overall reliability and environmental sustainability while maximizing the beneficial reuse of recycled water in the region."

Furthermore, this purchase supports the implementation of the innovative Chino Basin Program (CBP), a water banking program that will increase local water supply reliability and control, while addressing challenges caused by climate change. IEUA will design, construct, and operate an Advanced Water Purification Facility (AWPF), groundwater injection facilities, pump stations, new wells, and connection lines between the Agency's wastewater plant and the city of Rialto's recycled water distribution system. IEUA's purchase of this water will improve the downstream ecosystem for native fish species by helping to promote cooler water temperatures. By providing a new local supply of tertiary recycled water for IEUA's AWPF, this purchase agreement with the city of Rialto will provide benefits to our ecosystem and is an integral part of improving reliability and resiliency in the region. The partnership with the city of Rialto is a vital component to meeting the region's overall water supply needs and is essential in supporting the Chino Basin Program's goal of enhancing local control over water supplies for the region.

"In today's modern age, progress and development can be found all around us and we as an Agency do not fall short of these expectations," continued Deshmukh. "IEUA continues to stay at the forefront of innovation by exploring real solutions through collaborative partnerships that will hold a lasting effect to increase and store recycled water supplies, aiding in the overall resource resiliency for the region." ○



The Chino Basin Program, a water banking project, is the first of its kind to deliver benefits to both the northern and southern parts of California through an innovative water exchange, new recycled water supply, and valuable new infrastructure and upgrades. Partners of the CBP to-date include IEUA, Cucamonga Valley Water District, Jurupa Community Services District, Fontana Water Company, City of Rialto, and Metropolitan Water District of Southern California. For more information on the CBP, visit, www.chinobasinprogram.org



IEUA.org



Western Water Prioritizing Water for All

Agency is Increasing Local Supply, Advocating for State Solutions



"If it just rained like this every year, we'd be great. All we have to do is have a wet year every single year. But the reality is that California's water supply system is not equipped to handle the boom or bust climate realities."

Craig Miller
General Manager

Western Municipal Water District (Western Water), alongside its 1 million customers, breathed a collective sigh of relief when the rain fell, and the mountains were blanketed with snow. That said, Western Water knows that one wet season is not enough to solve California's statewide water infrastructure challenges. That is why Western Water is working every day to ensure its community has access to water now and in the future – no matter the weather conditions.

"If it just rained like this every year, we'd be great. All we have to do is have a wet year every single year," said Western Water's General Manager Craig Miller. "But the reality is that California's water supply system is not equipped to handle the boom or bust climate realities."

Since 1954, Western Water has been serving the community by providing water, wastewater (sewer), and recycled water services to nearly 1 million people in western Riverside County. The agency directly provides water to customers and also acts as a wholesale water supplier to local water districts.

Western Water is committed to creating a sustainable water supply for the communities it serves and is actively preparing for future droughts. Through its recently completed "Connecting the Drops" project, Western Water is advancing stormwater, recycling, and groundwater quality improvement projects to further the agency's water supply goals by bringing approximately 253 million gallons of new local groundwater to the region.

In some cases, these are customers who never had access to local water supplies. The project also benefits Western Water's retail customers by providing an emergency supply that can be used if there are interruptions or limited access to imported water.

Western Water is collaborating with six water agencies throughout Southern California in a groundbreaking partnership





Western Water provides water, sewer and recycled water services to 1 million people in western Riverside County. The agency is investing in local groundwater and recycled water projects, shown here. Western Water also supports modernizing the statewide water system for the benefit of all communities, agriculture and the environment. Western Water's Arlington Desalter uses reverse osmosis to turn groundwater into more than 6 million gallons of drinkable water per day – combined with Western's Chino Desalter, these two facilities supply nearly 20 million gallons of additional local water to the community.



to purchase surplus water imported in wet years via the State Water Project and store it in six groundwater basins within the Santa Ana Watershed.

Moreover, Western Water is making significant investments in innovative infrastructure projects, such as groundwater wells, treatment, and conveyance facilities. To support these projects, they have successfully pursued and received millions of dollars in grant funding for design and construction. This all plays an important role in increasing the amount of water stored during wet years, subsequently, making more water available during dry years.



(20 million in 1970 versus nearly 40 million today). Over the years, despite incremental improvements and additions to infrastructure, we've largely fallen behind."

As a member agency of The Metropolitan Water District of Southern California, Western Water receives about 60 percent of its water from California State Water Project in Sacramento. Additionally, nearly 20 million Southern Californian's also rely on these imported sources delivered through the statewide water supply system.

To move the needle on a statewide level, Western Water is spearheading an effort to join water interests across California to establish statewide water supply targets while requiring the State, water community, and stakeholders to follow

through on comprehensive, long-term water supply solutions that will transform water management in California.

Miller continued by saying, "In public service, targets create clarity, accountability, and follow-through; they are standards from which we can measure progress and adjust policies. We have a clear choice – continue to invest in necessary local projects and modest statewide improvements to the water system and hope its enough; or prepare our state to thrive in the face of the challenges that science is predicting."

Western Water supports Senate Bill 366, the California Water for All initiative, which would transform California water management so that instead of managing for scarcity, the State will work toward water supply targets to ensure we have enough water for communities, agriculture, and the environment.

"Water providers across California are coming together on behalf of our customers to make water supply a top priority and demand statewide action," Miller said. "There are proven engineering projects that can solve our challenges. To sustain our economy and way of life, we must invest in our water system now and adapt to our changing climate."

Western Water also supports a culture of water efficiency by encouraging its customers to continue using water wisely and reduce demands, especially outdoors where 60 percent of residential use occurs. To make water-efficient lifestyles easier, Western Water offers free landscape surveys and a \$5-per-square-foot turf rebate program. Finally, everyone can make their voices heard by contacting local, county and state officials to advocate for a more resilient water supply for all Californians.

For more information about Western Water's innovative programs, visit WesternWaterCA.gov. To learn more about CA Water for All, visit CAWaterForAll.com.





EMWD replenishes groundwater in the San Jacinto Valley during wet and normal years so that it has an increased supply of local groundwater supplies available during cyclical dry conditions. Below, EMWD uses recycled water for public landscaping, including at golf courses and in common areas of homeowners associations landscaping.

Eastern Municipal Water District

Creating a More Sustainable Local Water Supply Future



“What worked a generation ago will simply no longer balance the needs of our community with our current water supply reality. That is why investing in our future is critical for us to meet the needs of our community for future generations.”

Philip E. Paule
EMWD Board President

As California faces a water supply future that has created prolonged droughts interspersed with briefer periods of intense rainfall, it is up to local agencies to ensure they are also adapting to this new normal through modernized infrastructure investments that support water supply resiliency.

Eastern Municipal Water District (EMWD), California’s sixth-largest retail water agency which serves nearly one million customers throughout western Riverside County, is proud to have done that.

Through a modernized approach to infrastructure investment and climate adaptation, EMWD has developed one of California’s more forward-thinking water supply portfolios that emphasizes sustainability and efficiency while also adjusting to the weather whiplash that has created boom-or-bust cycles with our water supplies.

“What worked a generation ago will simply no longer balance the needs of our community with our current water supply reality,” EMWD Board President Phil Paule said. “That is why investing in our future is critical for us to meet the needs of our community for future generations.”

Among those approaches that EMWD has leaned heavily into are investments in recycled water and its Groundwater Reliability Plus program, which emphasizes local water supplies that are locally managed. Through those efforts, EMWD meets approximately half of its overall water supplies, with the balance coming from water imported through the State Water Project and Colorado River Aqueduct systems.

EMWD’s regionalized approach toward sustainability has resulted in a range of infrastructure programs that embrace a holistic approach toward water supply management, including:

- As a national leader in recycled water, EMWD has a strategic priority of beneficially reusing 100 percent of its recycled water supply each year, which accounts for 37 percent of its overall water supply portfolio. This valuable and local water source is used by agriculture, schools, parks and public landscaping for irrigation purposes and reduces our reliance on drinking water supplies.





At left, EMWD’s Perris II Desalination Facility was commissioned in 2022 and provides enough clean drinking water for 15,000 households each year. Above, EMWD in 2022 continued to be a state leader in providing recycled water service to the community. EMWD sold more than 39,000 acre-feet of recycled water in fiscal year ending 2022, with approximately two-thirds of that to its agricultural customers.

- EMWD’s Recycled Water Accelerated Retrofit Program has been nationally recognized for its innovative approach toward expanding the use of recycled water at public and commercial landscaping sites. Program participants have often cited funding and technical expertise as challenges toward retrofitting existing landscape systems to recycled water. To solve this, EMWD takes the lead on design, permitting and provides a funding mechanism to the user that offers immediate cost savings compared to potable water and pays off the project cost over 10 years. More than 50 sites have participated in the program.
- EMWD’s groundwater desalination program – which expanded in 2022 through the completion of its new Perris II Desalination Facility – is a critical component of its sustainability efforts. The program makes beneficial use of a groundwater supply that is otherwise too salty to use and exports salts from the region through a brine line, helping to improve the long-term health of the groundwater basin.
- As climate change has led to longer dry periods followed by shorter periods of intense rainfall, EMWD proactively invested in facilities that could receive large amounts of water in short periods of time to replenish its local aquifer. EMWD’s Mountain Avenue West Groundwater Replenishment Facility, completed in 2021, does just that. The Water Banking facility can put approximately 30,000 acre feet of water into the groundwater basin annually and has a percolation rate of more than five feet per day. This allows EMWD to receive water from the State Water Project during wet and normal years and save it underground to use during prolonged droughts.
- In the coming years, EMWD will break ground on its Purified Water Replenishment Facility, which will advance clean recycled water into a purified water source. It will be blended with additional tertiary recycled water, and State Water Project water, and percolated into the local groundwater basin. This will allow EMWD to continue using 100 percent of its recycled water supplies for beneficial reuse and provide long-term quality and quantity improvements to the groundwater basin.

While California’s most recent drought is slowly fading into the rear-view mirror thanks to a historic year of snow and rainfall, local water agencies are already preparing for future climate variation cycles within our state and throughout the western United States.

That is why these projects are so vitally important, as they ensure that our region is well-prepared to meet the future’s water supply challenges and create a culture of sustainability to ensure our customers have water supply reliability for future generations.

“Our agency is focused not just on the next period of water supply deficits, but well beyond that,” Paule said. “By planning for our future and investing in facilities and programs now, we will be prepared to meet the needs of our customers.

“EMWD is proud of its efforts to create a culture of sustainability and be a statewide leader in local water supply investments.”

Eastern Municipal Water District is the water, wastewater service and recycled water provider to nearly one million people living and working within a 558-square mile service area in western Riverside County. It is California’s sixth-largest retail water agency, and its mission is “To deliver value to our diverse customers and the communities we serve by providing safe, reliable, economical and environmentally sustainable water, wastewater and recycled water services.”



More information can be found at www.emwd.org.



Protecting Our Water Supply and Environment

San Bernardino Valley MWD Investing in Projects for a Resilient Future



“Projects we oversee work on a decades-long timescale, rather than simply months or years, requiring a collaborative and solutions-oriented approach that spans beyond individual team member’s careers.”

Heather Dyer
CEO / General Manager

We’ve all heard of a “Five-Year Plan” for our personal lives, but did you know there are organizations taking this concept to the next level to enhance water supplies for the next 100 years? Agencies like San Bernardino Valley Municipal Water District, San Bernardino Valley for short, serve as regional stewards of important resources, entrusted to analyze past experiences and current environmental conditions to ensure a resilient water supply and holistically healthy watershed for future generations. San Bernardino Valley is blazing the trail with a road map, also called a Strategic Plan, and taking steps toward visionary projects that require precision, commitment, and grit in order to ensure that they see the light of day in 20-50 years.

“Projects we oversee work on a decades-long timescale, rather than simply months or years, requiring a collaborative and solutions-oriented approach that spans beyond individual team member’s careers,” said San Bernardino Valley CEO/ General Manager Heather Dyer. “Today, I am proudly carrying the torch of those that persevered before me. Each project serves as a piece of a regional tapestry, building a robust and connected system of projects, making sure there is enough water for all the needs spanning from Big Bear Lake to the Pacific Ocean.”

Picture this, 30 years ago water leaders knew the region needed to build projects that would capture local rain water in the foothills of the San Bernardino Mountains. The Santa Ana River Enhanced Recharge Project, underway today, achieves just that and is being completed in multiple phases to build a system that will harness stormwater flowing from the Seven Oaks Dam giving it the opportunity to slow down and absorb into the Bunker Hill Groundwater Basin. So far one phase is





The Santa Ana River Enhanced Recharge Project, shown at far left, captures stormwater for the Bunker Hill Groundwater Basin and is a protected habitat for many plants and animals. Below left, San Bernardino Valley MWD CEO/General Manager Heather Dyer works with agency staff. Above and at left, San Bernardino Valley is working with other agencies to improve and manage the Seven Oaks Dam in Highland for strategic water releases to aid supply.



Why is this important?

The groundwater basin serves as a regional piggy bank for water storage; collecting water during wet years to be used during dry ones. Through careful engineering and environmental planning, groundwater storage creates reliable access to water for the community, even as climate change increases the unpredictability of the weather and our rainfall.

completed, and Phase 1B is kicking off in 2023. This \$100 million investment will ultimately allow over 326 billion gallons of water to be saved for the next drought so that the crucial needs of over 700,000 people can continue to be met for decades to come.

“Through regional partnerships, resolve in overcoming the common barriers such as permitting and funding, and challenging the traditional approaches to delivering a project – we are providing water solutions that will support future generations to come, our region is actually constructing a project that will enhance the lives of our children’s children,” explained Dyer.

If you have ever taken a scenic drive through Highland, California you may have seen an impressive dam nestled against the mountains along the path of the Santa Ana River. The 550-foot Seven Oaks Dam is an earthen structure designed to limit damage to the Inland Empire and Orange County from powerful Southern California storms. But San Bernardino Valley says – why stop with one benefit? With a facility of that size and taxpayer investment – it’s our duty to work with the Army Corps of Engineers to ensure this valuable piece of infrastructure will be used for water supply, habitat enhancement, and water quality improvements. This lengthy process includes navigating the complicated water rights landscape and sponsoring the Scripps Institute Center for Western Weather and Water Extremes to develop a plan known as a Forecast Informed Reservoir Operation (FIRO). By planning for stormflow control and strategic water releases during wet seasons, the stormflow can be maximized for water storage in our groundwater aquifer sitting

below the Santa Ana River valley. “Using the Seven Oaks Dam for both stormwater control and water supply highlights the ability for maximizing public investments when agencies come together with a willingness to be innovative,” said Dyer.

These projects, and many more, are taking place in very sensitive environments. Beyond the water supply consideration, are the changing needs of the communities and the protection of sensitive habitats for endangered species. The Upper Santa Ana River Habitat Conservation Plan is guided by the need for responsible management of water supply resources and sustainable stewardship of species, habitats, and aquatic resources across the Upper Santa Ana River Watershed. The San Bernardino Valley service area is home to 22 protected plants and animals; by working with both State and Federal regulatory agencies, identifying project impacts, developing joint solutions, critical water projects have been made possible through a unique collaboration between the 11 participating water districts.

Whether it is constructing groundwater replenishment facilities or leading environmental planning, San Bernardino Valley has set out to be transformative through collaboration, trust, innovation, and drive. They truly embody their mission to work collaboratively to provide a reliable and sustainable water supply to support the changing needs of our region’s people and environment. Stay tuned for the large-scale projects intended to serve this region. Take a look, and it is clear that each effort is connected to the next in a complimentary and long-lasting strategy that will ensure that every time you head to the tap for a refreshing glass of water, it is ready for you and me.

About San Bernardino Valley

San Bernardino Valley is responsible for long-range water supply management, including importing supplemental water, for most of the groundwater basins within our boundaries, and for groundwater extraction over the amount specified in the local basin judgments. San Bernardino Valley is governed by a five-member, locally elected Board of Directors, serving around 353 square miles in southwestern San Bernardino County. For more information visit sbvmwd.com. ○





Santa Ana Watershed Project Authority

Addressing Regional Water Issues and Promoting Watershed Sustainability since 1972

The Santa Ana Watershed Project Authority (SAWPA) is a Joint Powers Authority (government agency) serving the Santa Ana River Watershed (Watershed), a 2,840 square-mile region that is home to over 6 million residents in portions of San Bernardino, Riverside, and Orange Counties, and a small portion of Los Angeles County. Established in 1972, SAWPA provides a unified voice for the water management needs within the Watershed. Its mission is to make the Watershed more sustainable through fact-based planning and informed decision-making, regional and multi-jurisdictional coordination, and the innovative development of policies, programs, and projects. SAWPA is composed of five member agencies that provide water services covering the Watershed.

- ~ Eastern Municipal Water District
- ~ Western Water
- ~ Inland Empire Utilities Agency
- ~ San Bernardino Valley Municipal Water District
- ~ Orange County Water District

SAWPA partners with agencies across the region and has facilitated regional interagency agreements allowing agencies to address challenges on a watershed-wide level. A number of projects increasing water supply and improving water quality within the Watershed have been constructed under SAWPA's administration based on the award of over \$400 million in grant funding from State Water Bonds over the past 20 years.

Inland Empire Brine Line

The Inland Empire Brine Line (Brine Line) operated by SAWPA is an effective, economical way to dispose of salty wastewater, produced through manufacturing and water treatment processes, including desalting of brackish groundwater. The Brine Line is a pipeline that currently spans 93 miles across the Watershed, removing 500,000 pounds of salt from local industry effluent daily.

Because of salinity restrictions, measured as total dissolved solids (TDS), in regional wastewater treatment plants, many industries are prevented from discharging their wastewater to the municipal sewer. With the Brine Line, a variety of water-intensive businesses can now dispose of salty wastewater locally at a substantial cost savings. To dispose of their wastewater to the Brine Line, Inland Empire businesses can use Trucked Disposal to a collection station or Direct Disposal, a direct connection to the Brine Line. The Brine Line conveys salty wastewater from the Watershed to a wastewater treatment plant operated by the Orange County Sanitation District (OC San). After treatment, the water is then safely discharged into the Pacific Ocean.

One Water One Watershed

One Water One Watershed (OWOW) is SAWPA's watershed-wide Integrated Regional Water Management plan that envisions a sustainable Watershed that is drought proof, salt balanced, and supports social, economic, and environmental vitality by the year 2040. The OWOW plan was written by over 100 authors from water agencies, non-profits, and other stakeholders in the Watershed to analyze, develop, and describe new integrated solutions. Through OWOW, the Watershed has been able to capture 180,000 Acre-Feet (AF) of additional surface and imported water.

Regional Initiatives

To address growing concerns of climate change and continuing drought conditions as a watershed, SAWPA is working closely with the State on several initiatives to promote watershed resiliency. These include working with statewide forums in the development of the upcoming California Water Plan 2023, watershed resilience initiatives, and climate change resilience and adaptation. SAWPA is also exploring initiatives that address new water resource strategies such as a watershed-wide weather modification (cloud seeding) pilot program, expanded stormwater capture, and increased support programs to underrepresented communities particularly vulnerable to the impacts of drought cycles and climate change.

Roundtables

The SAWPA Roundtables, also known as Task Forces, provide a forum for joint water resource management efforts to address watershed issues and regulatory compliance. The Roundtables administered by SAWPA staff create value among regulators and the regulated community by facilitating stakeholder processes for collaboration and producing significant cost savings through joint efforts to address water management issues. The SAWPA Roundtables have addressed the cleanup of surface water and the restoration of natural systems while mitigating potential conflicts in the Watershed. To learn more, visit sawpa.org. ○



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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.



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.

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 21]



Fontana Water Company has provided safe, clean and reliable water service to the City of Fontana for over 75 years.

Collaboration and Innovation:

Fontana's Water Providers Working Together for a Reliable and Sustainable Future

As contentious as the water conversation often is in our state, the City of Fontana is blessed by having partners that work extremely well together to serve our residents and business community. We are served by three water providers: Fontana Water Company (FWC), Cucamonga Valley Water District (CVWD), and Western Municipal Water Company. Water treatment and sewer service for the city is primarily provided by the Inland Empire Utilities Agency (IEUA).



Acquanetta Warren
Mayor, City of Fontana

Continuing to invest into water, wastewater and recycled water infrastructure is critical. The region needs to continue to have a reliable and affordable water supply to support the growing economy with exciting and innovative programs such as the Chino Basin Program (CBP). The CBP is a local water supply reliability program spearheaded by IEUA which will treat and store currently inaccessible, unused local recycled water supplies in the Chino Groundwater Basin increasing water reliability for participating agencies and their partners in particular the City of Fontana.

The largest customer base in our city belongs to Fontana Water, a private water utility regulated by the CPUC, which has provided safe, clean and reliable water service to the City of Fontana for over 75 years.

FWC's public drinking water system serves more than 237,000 customers and consists of 31 active groundwater production wells that produce high quality drinking water from three separate groundwater basins, local surface water supplies from nearby Lytle Creek, and imported water supplies from IEUA and the San Bernardino Valley Municipal Water District. These sources of supply are distributed throughout Fontana through more than 700 miles of pipelines ranging in diameter from 2 inches to 42 inches, and 27 storage tanks with more than 33 million gallons of available water storage capacity.

Collaboration with the City and the other water service providers in our region has enabled Fontana Water Company to meet the water needs of one of the fastest growing communities in the Inland Empire and helps the City and its residents to better understand the vital needs of a public drinking water system.

Fontana Water Company has developed a number of programs that will help provide a reliable water supply for today and tomorrow. These programs

are continuously updated and available to customers on our website at www.fontanawater.com.

The central, or core area of the city's western boundary is served by CVWD, whose service area includes more than 50,000 water connections. That area includes the City of Rancho Cucamonga, portions of the cities of Fontana, Ontario, Upland, and some unincorporated areas of San Bernardino County.

CVWD has three water treatment facilities located within the district's boundaries, which treat local surface water from the canyons and imported water from Northern California. The Lloyd Michael Water Treatment Plant (LMWTP) is CVWD's marquee/flagship water facility: It can treat up to 60 million gallons per day (MGD) using conventional water treatment, carbon filtration and ultra-violet disinfection. It is one of the larger drinking water treatment plants in the Inland Empire.

CVWD operates and maintains 750 miles of water mains and pipelines, 34 reservoirs with a total capacity to store 95 million gallons, and dozens of pump stations that meet the water demands of our customers every day.

Key to the success in water conservation that CVWD has experienced over the past decade has been an aggressive public education and outreach program. CVWD participates broadly in community events and conducts several educational outreach programs throughout the district including the wildly popular annual earth day celebration. More information about CVWD's conservation and public outreach programs can be found at <https://www.cvwewater.com>.

As the Mayor of one of the fastest growing cities in Southern California, I can attest to the importance of having great partners and always finding a way to work together. I am grateful for the work that our water providers put forth to serve our community. As I always say, Fontana working together, moves Fontana forward. ○





Jurupa Community Services District (JCSD) will break ground later this year on a Regional Recycled Water Project that will bring recycled water to parks, schools and street landscapes in Eastvale and Jurupa Valley. Communities will start seeing purple pipes, shown above, and signs indicating the use of recycled water.

Coming Soon: Recycled Water to Jurupa Community Services District

Recycled water is coming to the Jurupa Community Services District (JCSD), and soon customers will begin to see purple pipes in the JCSD service areas.

JCSD's Regional Recycled Water Project is a key component of JCSD's long-term objective of diversifying its water portfolio. JCSD is working with members of the Western Riverside County Regional Wastewater Authority.

"As California experiences reoccurring droughts, JCSD's Regional Recycled Water Project will be essential in the region's long-term response to drought and water conservation," said Jesse Pompa, JCSD's Director of Engineering & Water Resources. "Adding recycled water to JCSD's water portfolio will offset the use of precious potable water."

JCSD expects to break ground on the Regional Recycled Water Project late this year, with completion anticipated by mid-2025.

Upon completion, the Regional Recycled Water Project will immediately offset more than 250 million gallons of recycled water annually to JCSD's irrigation customers.

Irrigation customers who will receive recycled water include parks, schools, street frontages, and median landscapes in the cities of Eastvale and Jurupa Valley.



The total cost of the project is approximately \$60 million. JCSD has worked hard to fully fund all project costs through grants and low interest Clean Water State Revolving Fund loans. "Having a great project like this be 100 percent funded through grants and state funding means there will be no impact on our rates," said JCSD General Manager Chris Berch. "It is a testament to our commitment to JCSD's ratepayers and the strength of our relationships with funding partners."

Founded in 1956, the Jurupa Community Services District is a public governmental agency providing services and programs to Eastvale and Jurupa Valley. It is governed by a Board of Directors comprised of five elected representatives from both cities. Serving over 130,000 people in a 40-square-mile area, JCSD provides a variety of community services and programs, including water, sewer, street lights, frontage landscape maintenance, graffiti abatement, and parks and recreation services. ○

Thus far, JCSD has been awarded over \$33 million in grant funding for its Regional Recycled Water Project.



COMMUNITY SERVICES DISTRICT

Proudly serving Jurupa Valley and Eastvale



At left is the Montclair Basin Chain shown full after a March 2023 storm. The Montclair Spillway #2, shown above, at its completion.

Recent Storms Demonstrate Benefits of New Spillway for Groundwater Recharge

This year's constant deluge of water after so many years of drought has many Californians asking what we are doing to capture water for later use. California's future economic vitality depends on our ability to fully take advantage of wet years, as climate change is causing drought years to last longer and become more intense. While surface reservoirs are crucial to our water supply, opportunities to store water underground are just as important. In fact, for many communities around the state lucky enough to have an underground aquifer, with the right infrastructure, they represent a "drought piggy bank" that captures water in wet years for use during dry years.

In one community sitting below Mount Baldy, the Chino Groundwater Basin has been a crucial source of water for generations. The Chino Basin Water Conservation District, founded in 1949, completed a key piece of infrastructure in the fall of 2022, just in time to take advantage of this winter's storms. A new concrete spillway for Montclair Basin #2, located along the San Antonio Creek Channel, will help capture up to 18 million gallons of additional stormwater runoff for future use.

The \$1.05 million project in Montclair was unveiled by CBWCD Board members at a ribbon cutting ceremony on Jan. 19, following a series of major rainstorms. The new spillway allows CBWCD to raise the water level in Montclair Basin #1 by eight feet, which represents 18 million gallons of water.

"This project is made for winters like this, when we are inundated by rain that we can then capture and store underground for dry times," said Gil Aldaco, CBWCD Board Treasurer, at the Jan. 19 ribbon cutting ceremony. "Holding the water locally, rather than letting it flow out to the ocean, furthers our goal of preserving and protecting the Chino Groundwater Basin."

The Chino Groundwater Basin is the tenth largest aquifer in Southern California and provides about half of the water supply for the area. CBWCD has spent decades investing in recharge basins to ensure that water can be put back into the aquifer. The area has a network of basins for both recharge and flood control, owned by CBWCD and San Bernardino County Flood Control District. The organizations work with the Chino Basin Watermaster and the Inland Empire Utilities Agency to maximize the effectiveness and efficiency of all the basins in the area to capture and store as much water as possible, which includes stormwater, recycled water, and imported water from Northern California.

The spillway project was completed in October 2022 with \$300,000 in assistance from the American Rescue Plan Act (ARPA) funds, awarded to CBWCD by the County of San Bernardino.

"Our water supply is central to our ability to grow our community and our economy. During the drought, we have been reminded that it is crucial to capture every drop we can for our local supplies," San Bernardino County Supervisor Curt Hagman said.

The spillway complements a planned inlet diversion project by Inland Empire Utilities Agency (IEUA) that will increase stormwater capture by an additional 96 acre-feet per year – enough to serve almost 200 families for a year. Together, the projects were funded by a \$1 million grant from Metropolitan Water District of Southern California's (MWD) Stormwater for Recharge Pilot Program. ○

For more information about CBWCD, visit cbwcd.org.



At the January Ribbon Cutting Ceremony, from left, Matt Hacker, Metropolitan Water District of Southern California; Marco Tule, Inland Empire Utilities Agency Board President; Gil Aldaco, Chino Basin Water Conservation District Board Treasurer; Curt Hagman, San Bernardino County Supervisor; Elizabeth Skrzat, CBWCD General Manager; Mark Ligtenberg, CBWCD Board President; Kati Parker, CBWCD Board Vice President; Teri Layton, CBWCD Board member; Amanda Coker, CBWCD Board member.



Vail Lake, shown above, captures local rainfall and can store up to 14.7 billion gallons of water. Inset at right: Future location of hydroelectric facility at Upper VDC Recharge Basin.

Rancho Water Leads the Way

with Groundwater Optimization and Energy Management Programs

Rancho California Water District (Rancho Water/District) is dedicated to being a leader in water supply resiliency and energy efficiency through innovation and technology. The District continues to lead the way with projects that reduce energy and imported water costs. Overall, the water and wastewater sectors consume more than 10 percent of California’s energy demands. To reduce its use of the energy grid, Rancho Water has made improvements throughout the District with forward-thinking programs and projects.

Groundwater Optimization Program

Through a grant from the U.S. Bureau of Reclamation, Rancho Water is working to advance a groundwater optimization program that utilizes real-time monitoring to balance energy and consumer demands, water production, and water quality. Rancho Water currently manages a groundwater recharge and recovery program relying on local runoff from its picturesque 43,000-acre-foot Vail Lake, along with untreated imported water conveyed through the Metropolitan Water District of Southern California (MWD) pipelines. While these existing efforts account for approximately 30,000 acre-feet per year (AFY) in recharge and recovery, with the objective to expand the use of the groundwater basin by another 150,000 AFY.

The groundwater optimization program will also include construction of a pump station and disinfection facilities, which will more than double Rancho Water’s existing groundwater treatment capacity, allowing the District to treat and deliver additional water from three sources: local groundwater, Vail Lake, and imported water. Once complete, these

facilities will provide reliable and inexpensive water supplies to over 150,000 people and nearly 10,000 acres of irrigated agriculture, which generates over \$1 billion in local economic activity, annually.

Inline Hydroelectric Facilities Energy Management Project

Rising energy costs coupled with the uncertainty of the power grid has led Rancho Water to advance a number of projects designed to reduce energy demands. Rancho Water is developing two inline hydroelectric facilities that will result in permanent reductions to the District’s annual power demands by roughly 5 percent through the installation of equipment utilizing existing water pressure. The District’s Upper Valle de Los Caballos (VDC) Recharge Basin is supplied by a raw water connection with MWD. The new hydroelectric facilities will produce an estimated 2.2 million kilowatts under current conditions, increasing to 4.3 million kilowatts in the near future.

With the completion of these current projects along with other energy demand management programs, the District will save more than \$3 million every year. These energy savings not only save money, but they allow Rancho Water to better serve its customers and help meet California’s needs, reducing energy consumption during peak periods and leading the way to an energy efficient future. ○





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Nonprofit and non-partisan, the Southern California Water Coalition has been educating people about and driving solutions to California's most vital water issues since 1984. Find us at www.socalwater.org.



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 15]

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

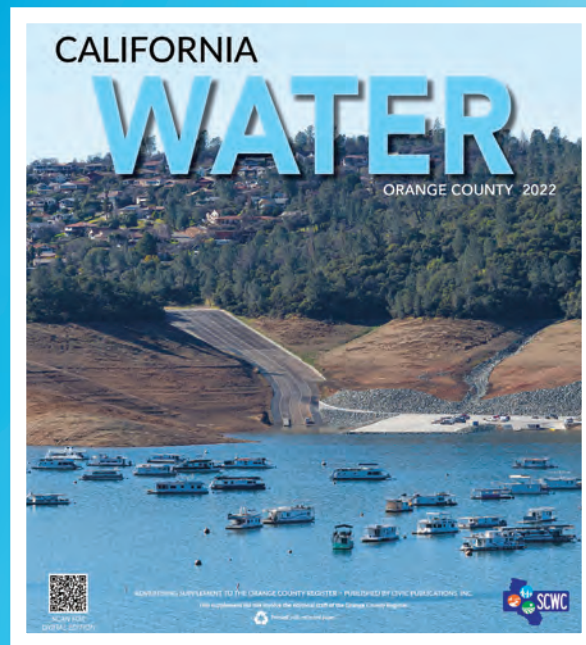
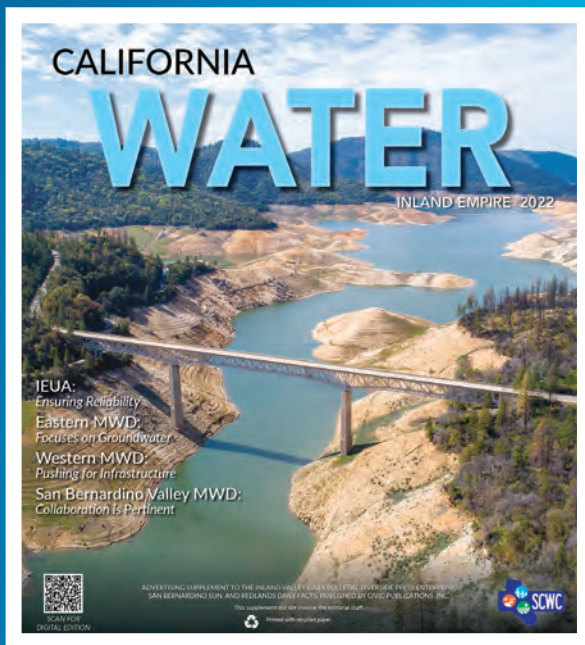
take away from future generations. So, many of the actions that we take under that sustainability umbrella are actually about reducing waste, using resources more efficiently, and considering the full life-cycle costs and benefits of our actions. A sustainable solution can be affordable when you look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

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Aerial view of low water conditions near Bidwell Bar Bridge when the storage was 970,851 acre-feet (AF), 27 percent of total capacity. Photo taken Oct. 28, 2021.

*Photo courtesy of Andrew Innerarity
California Department of Water Resources*

LAKE OROVILLE – THEN AND NOW



Aerial view of water levels at the Bidwell Bar Bridge. On this date, water storage was 2,658,184 acre-feet (AF), 75 percent of the total capacity. Photo taken March 8, 2023.

*Photo courtesy of California Department of
Water Resources*



HEAR FROM TOP WATER LEADERS

EPISODES

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

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



What Matters
Water TV & Podcast

#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

#11 | Cultivating a Secure Water Future for California

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