



Our Regional Reliability Outlook__

Addressing Drought & Climate Resiliency.



The Metropolitan Water District of Southern California was established nearly 95 years ago as a regional cooperative. Thirteen original members, which today number 26, joined together with the inspiration of doing the greatest good for the greatest number. This doctrine of shared responsibility ensured reliable and high-quality water supplies were delivered to a rapidly growing Southern California. Today, that regional collaboration faces one of its greatest challenges as parts of Metropolitan's six-county service area are impacted more significantly than others by historic dry conditions and shortage declarations for imported water supplies.

Cover Photo : Sunrise at Gene Pumping Plant.

Photographer: Ryan Anderson

Above: Bond Billboard circa 1931.

Water Supply Outlook

Bringing water across deserts and through mountains, Metropolitan's Colorado River Aqueduct required hard work and breakthrough engineering. As needs developed, Metropolitan complemented Colorado River deliveries with supplies from northern California through the region's participation in the State Water Project. Delivering water from those two primary imported water sources to a 5,200-square-mile service area created a system of canals, tunnels, pipelines, pumping stations, treatment plants and reservoirs. Today, Metropolitan's complex system helps drive the region's \$1.6 billion economy.

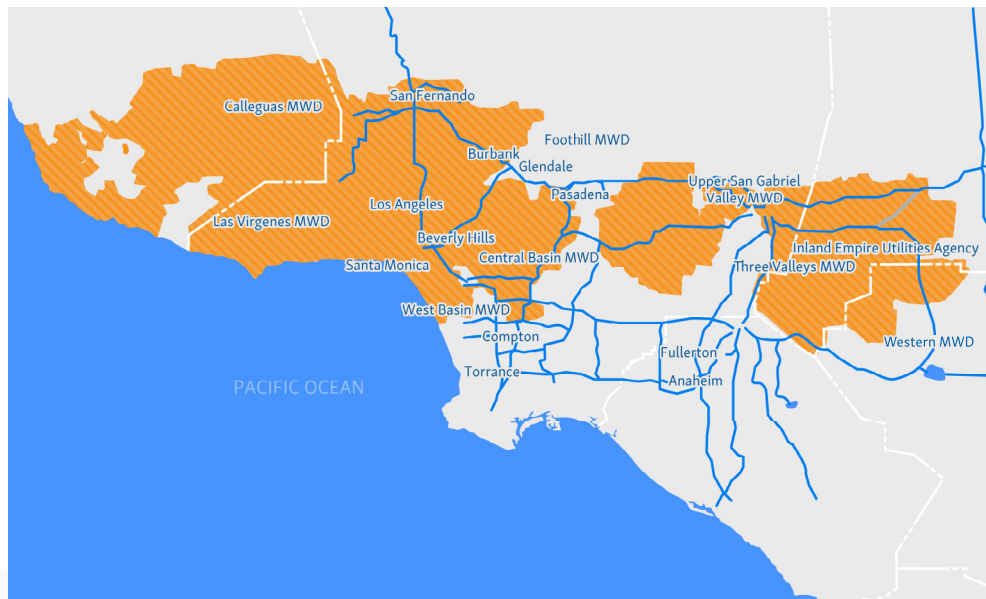
Water years 2020 and 2021 (Oct. 1 through Sept. 30 of the following year) were the driest consecutive years on record for rainfall in California. In August, the state's primary State Water Project reservoir, Lake Oroville, reached its lowest level since it was first filled in the 1970s. These conditions culminated in December 2021 when the state Department of Water Resources announced that the initial SWP allocation for 2022 would only be for human health and safety needs. If drought conditions continue, communities that are largely dependent on the SWP for their water supplies may only receive a very limited amount from the system. On the Colorado River, significantly low runoff in the Upper Basin led to the first-ever shortage declaration in the Colorado River system for 2022, with the increased likelihood of shortages over the next five years.

Metropolitan, its member agencies and partners have responded with extraordinary operational drought actions to limit the use of and stretch SWP supplies. This is in addition to the introduction of new programs and outreach measures, agreements, conservation programs and a concerted effort to collaborate. After Gov. Gavin Newsom expanded his Executive Order declaring a statewide drought emergency to include all of California, Metropolitan's board declared a Drought Emergency and called for increased efforts to maximize conservation, especially in communities dependent on SWP deliveries that face the greatest challenges.

Metropolitan's board pledged to identify and implement measures to ensure all portions of the service area have a high level of reliability against extreme drought with considerations to system improvements, local water supply development, new storage and programs to increase conservation.

A Water Distribution System Reimagined

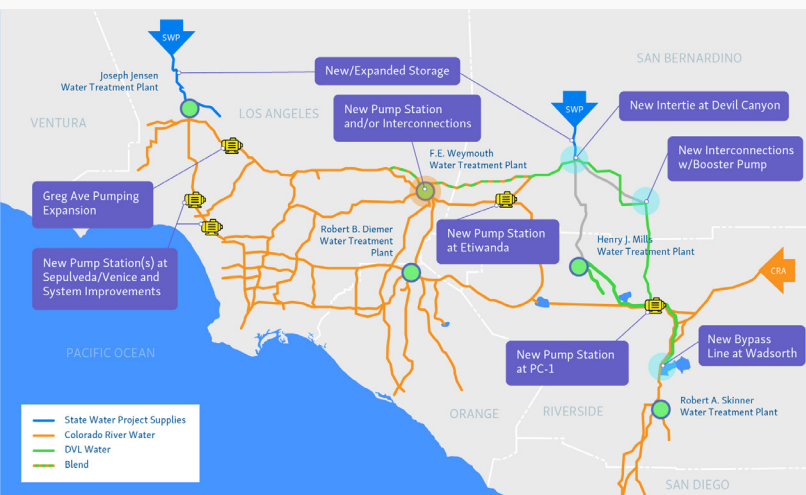
Within Metropolitan’s water delivery system, there are a handful of areas that are very dependent on SWP supplies. In an extended, multi-year severe drought on the SWP system, these areas feel the strain of demands outpacing supplies. Delivering other sources of water to these areas is part of the solution Metropolitan is committed to engineer.



Areas that Primarily Receive SWP Supplies

Here are a few actions we have taken in recent years to improve regional resiliency during drought:

- A major \$30 million rehabilitation of the aging Greg Avenue Pump Station was completed in June 2021. This brought the station online to pump Colorado River water to the northwest area typically served by the Joseph Jensen Water Treatment Plant to minimize SWP water use in the area.
- The CRA was transitioned to full capacity at 8-pump flow operations from April to August 2021 to maintain optimal regional water storage in Riverside’s Lake Mathews throughout the year and be able to push Colorado River water to the far reaches of the system when SWP supplies are limited. Metropolitan plans to resume maximizing CRA deliveries in 2022, which will require increased monitoring and maintenance work and great collaboration between engineering and operations staff.
- A system upgrade allowed water stored in Metropolitan’s Diamond Valley Lake in Hemet to flow by gravity to the Henry J. Mills treatment plant in Riverside for the first time in Metropolitan history, helping to preserve limited SWP supplies.
- Metropolitan coordinated with member agencies that have service connections to both SWP supplies and Colorado River water to shift exclusively to Colorado River supplies and allow SWP supplies to be conserved and stretched further through the drought. To help offset the costs of making this operational shift, Metropolitan’s board approved the Operational Shift and Cost-Offset Program in 2021.
- In December 2021, Metropolitan’s board voted to advance infrastructure improvements that allow even more water from Diamond Valley Lake to be moved to SWP-dependent areas, with project planning and preliminary design starting on three different projects, ranging in cost from \$10 million to \$26 million. While this shift benefits a region more impacted by SWP shortages, it also benefits Metropolitan’s entire service area by preserving the use of SWP supplies.



Metropolitan System Improvements Being Explored To Deliver Additional Sources of Water for Greater Flexibility

Metropolitan, its member agencies and Southern California have done an exceptional job in reducing water use and embracing the culture of conservation. But in the face of extreme weather, drought and climate change, this won't be enough. Together, we will chart a new route to reliability with an openness to new ideas, pursuit of new funding opportunities and strengthened partnerships.

One Water

THE METROPOLITAN WATER DISTRICT
of SOUTHERN CALIFORNIA

A One Water Approach

A One Water approach to resource management fosters solutions that bring us all closer to water supply reliability. While we will always depend on imported water, we need to continue our efforts to build sustainable water supplies that make us more resilient to drought and the changing climate. This requires us to invest in conservation, recycling and storage to take advantage of big water years when they come.



Greater Flexibility through new Agreements

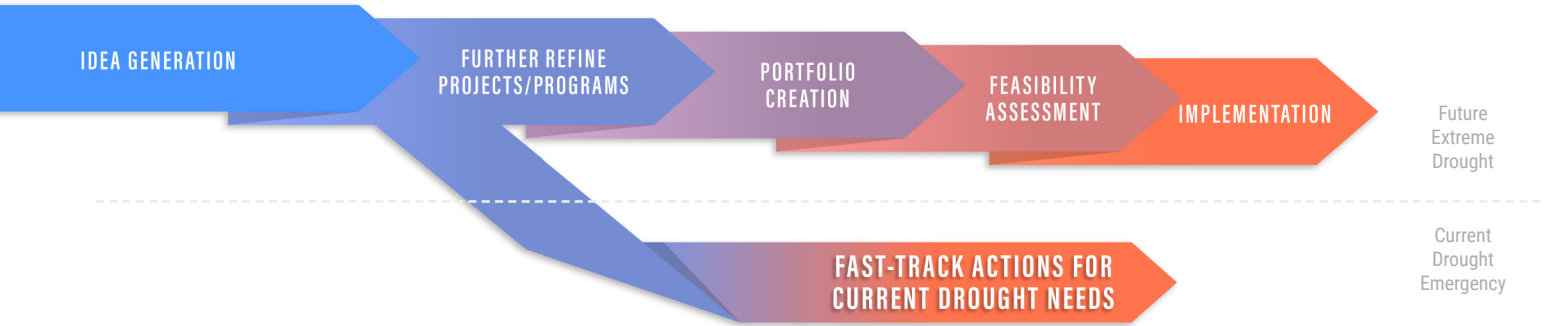
Metropolitan's board took several steps at the close of 2021 to build on water system improvements. This took the form of water exchanges with other agencies that will increase deliveries of SWP supplies and other sources to the SWP-dependent area. Regardless of the specific location of the exchange, this strategy allows limited SWP supplies to be preserved for all areas that are dependent on that system.

Steps taken include:

- An agreement with San Bernardino Valley Municipal Water District to make up to 7,000 acre-feet of its SWP supplies available to Metropolitan's SWP-dependent areas in early 2022, as well as up to 1,000 acre-feet per month of local groundwater. In exchange, Metropolitan will return those supplies at a later date and pay for the cost to shift to the use of more groundwater. Together these arrangements could provide enough water to serve more than 50,000 homes annually.
- An agreement with the San Diego County Water Authority that allows Metropolitan to purchase 4,200 acre-feet of groundwater currently stored by SDCWA in Kern County to provide to SWP-dependent communities. Additionally, Metropolitan will be allowed to withdraw more of its groundwater reserves from the Semitropic Water Bank located in California's Central Valley. These agreements will allow a total of 9,200 acre-feet of additional water to be delivered to SWP-dependent areas, which is enough to serve nearly 30,000 homes for a year.
- Arrangements with Arvin-Edison Water Storage District to recover Metropolitan's stored water by exchanging supplies with Friant Water Authority water. Metropolitan would receive Friant supplies via the Cross Valley Canal connection to the California Aqueduct and provide an estimated 15,000 to 20,000 acre-feet or more through February 2022.

Drought Action Planning & Development

Accelerated Actions
Can Be Supported with Federal and State Funding

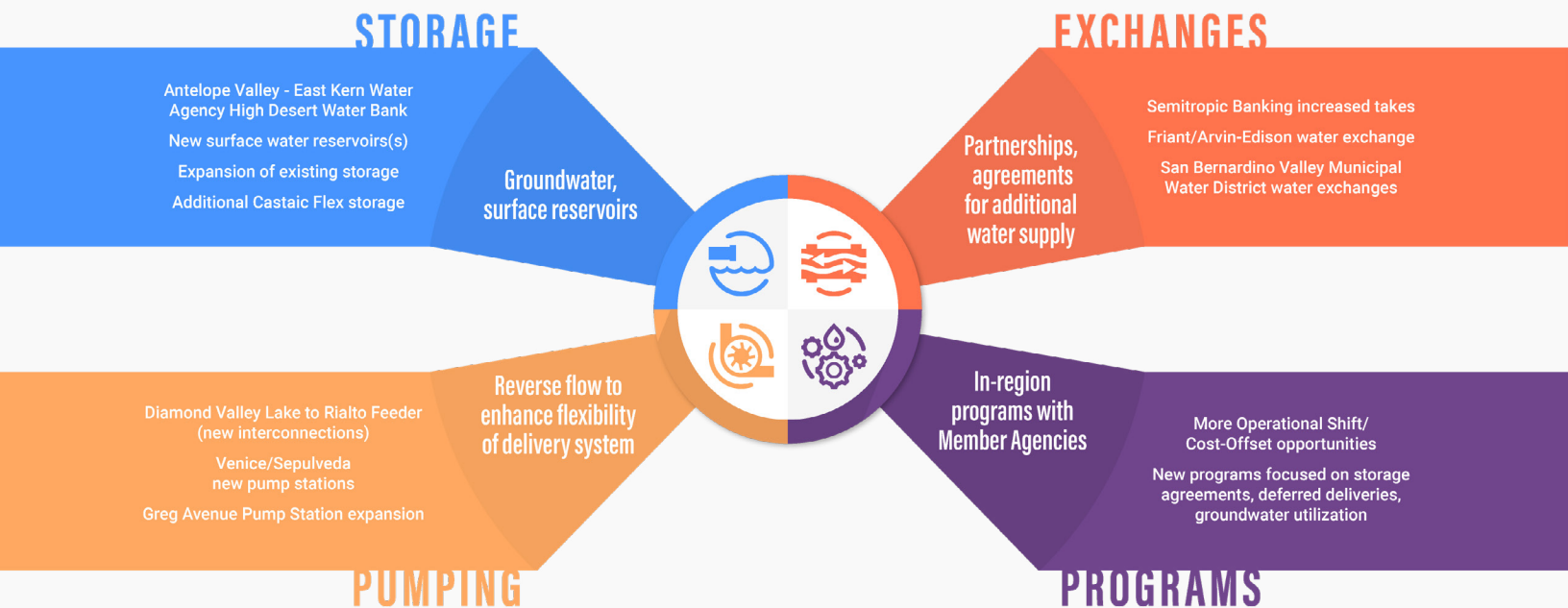


Recurring drought brought by climate change is a reality for Southern California. This increased frequency of drought enables resource planners to learn from each cycle how better to navigate sustained dry conditions and make our system more reliable. Metropolitan’s planning and collaboration with member agencies allows us to respond to immediate needs with operational and program changes, and to focus on climate change across the western U.S. to better prepare for climate adaption here. Incrementally and continually, Metropolitan has been dealing with our new reality and have made some big changes and gains since the 2014-15 drought.

We added new interconnections and strengthened existing infrastructure. Additional system changes will allow the reliable delivery of alternative sources of water when the primary sources of supply are limited, like SWP supplies. We also developed new storage programs. Implementation of our Water Surplus and Drought Management plan guided operation changes to help achieve regional reliability. This means we filled storage in places like SWP banking programs and Diamond Valley Lake and worked to shore up Colorado River supplies and delivery capabilities. But recent conditions have shown us our work is not done. There is more we need to do to make our region resilient.

Considerations: An Expanded Portfolio

Evaluating a Variety of Options
In Creating a Portfolio (Examples):



Continuing to Support Regional Reliability

Metropolitan has long supported local supply development through consistent investments in conservation programs, totaling \$840 million since 1990. These investments have yielded nearly 3 million acre-feet of water savings (an acre-foot is 326,000 gallons, enough to serve about three typical Southern California homes for a year). Our Local Resources Program, started in 1982, has invested \$709 million to date, supporting 88 recycled water projects and 28 groundwater recovery projects.

While Metropolitan has historically relied on its ratepayers to fund in-district needs, state and federal funding for diversification projects will be necessary going forward. No greater example is our ongoing effort to build the Regional Recycled Water Program with the Sanitation Districts of Los Angeles County to create one of the largest sources of purified water in the nation.

A reliable Southern California translates into a more reliable state water supply outlook – an interest Metropolitan shares with state and federal government.



Conservation Makes Us More Resilient

Southern California receives water from three aqueducts: the Colorado River Aqueduct, which we own and operate; the California Aqueduct, which carries our share of the State Water Project and the Los Angeles Aqueduct, which serves the city of Los Angeles. Today, we consider local resource development and conservation our “fourth aqueduct” supplementing our imported supplies and strengthening our resiliency against drought. Meeting our region’s needs requires working together with our member agencies and local and diverse communities. Without conservation, the effects of drought would be more swift and more severe. When we use less water, we are able to store more water for dry times. And for that reason, Metropolitan has a number of programs focused on conservation that include rebates, on-line classes, educational resources and outreach programs. Reaching under served communities with accessible conservation programs is also a priority. Check out bewaterwise.com for all things conservation.



Regional Recycled Water Advanced Purification Center, Carson, California

About Metropolitan

The Metropolitan Water District of Southern California is a state-established cooperative of 26 member agencies – cities and public water agencies – that serve 19 million people in six counties. Metropolitan imports water from the Colorado River and Northern California to supplement local supplies and helps its members develop increased water conservation, recycling, storage and other resource management programs.