EBMUD's Pardee Reservoir during drought

CALIFORNIA URBAN WATER AGENCIES

FISCAL YEAR

2016

CUWA

ANNUAL REPORT

EBMUD's Pardee Reservoir after rain


CCWD's Los Vaqueros Reservoir

CUWA MISSION

The mission of California Urban Water Agencies (CUWA) is to provide a forum for combining the expertise and resources of its member agencies to advance reliable, high-quality water supplies for California's current and future urban water needs in a cost-effective manner for the public, the environment, and the economy.

WHO WE ARE

Established in 1990, CUWA is a nonprofit corporation of 11 major urban water agencies collectively delivering drinking water to over two-thirds of California's population. Water delivered by CUWA member agencies is a lifeline supporting California's urban populations and the state's $2.3 trillion annual economy. Together, CUWA member agencies invest nearly $3 billion each year in capital projects to deliver water reliably.

WHAT WE DO

California water agencies today face many challenges—aging infrastructure, great uncertainties affecting future supply and demand, rising costs, affordability, and the ongoing need to reduce water and energy use. Together, CUWA members are exploring ways to address these challenges and improve outcomes and efficiencies statewide and within individual organizations. CUWA continues to exercise a well-respected and powerful collective urban voice to inform California water policy and provide a common understanding of consensus-based solutions among the urban water community.

HOW WE WORK

CUWA provides a forum for our Board members, General Managers and other high level agency decision-makers representing each agency, to exchange ideas and develop approaches to address current and future challenges. The CUWA Board is supported by representative staff from each agency on a range of technical committees. CUWA benefits its member agencies through:

- Efficient scaling and leveraging of collective work, saving individual agency resource investments on issues of common interest and enabling sharing of case studies and lessons learned.
- Engagement in a neutral forum, allowing agency leaders to exchange ideas and further enhance cooperative relationships through regular Board meetings (six times per year), ongoing committee efforts, and other communication venues.
- Effective outreach and communications with other leaders in California water on critical statewide issues.

2016 FISCAL YEAR HIGHLIGHTS

In 2016, CUWA continued to expand its work to partner and engage with others to find common ground and advance the sustainability of California Water. Even though Winter 2016 provided some relief from the drought, CUWA remains committed to working towards improving statewide long-term water reliability, affordability, and resiliency.

Tackling California's water accessibility and affordability issues. CUWA agencies are dedicated to providing access to safe, clean and affordable water for all customers in spite of the affordability challenges that face over 5 million of them. Beyond this, some rural California residents outside CUWA's service areas lack access to safe, clean drinking water. CUWA is working with multiple state agencies and the environmental justice community to achieve accelerated progress toward ensuring access to safe drinking water for everyone in California.

Facilitating a framework for potable reuse operator training and certification. Water supply diversification is critical to establishing reliable and resilient water supply portfolios to meet the state's current and future urban water needs. CUWA is working hard to facilitate the development of potable reuse in California. In FY2016, we worked with four partner associations on the development of an industry-supported framework for potable reuse operator training and certification that is intended to enhance regulatory and public confidence in the operation of these critical facilities.

Addressing changing water supply conditions. CUWA brought a unified urban voice to inform the State Board's development of near-term drought emergency regulations. CUWA agencies managed the drought successfully. Their customers responded to the call for emergency reductions and the agencies were able to demonstrate the resiliency of their systems' diversified water supply portfolios.

Collaborating on long-term water use efficiency. CUWA agencies continue to work together and in concert with other associations to explore joint positions for a long-term water use efficiency (WUE) framework. They are building on recent gains in public understanding to establish a cultural shift that supports the Governor's Executive Order for "making conservation a California way of life."

Exploring stormwater as a potential supply source. The CUWA agencies consider urban stormwater one important element of a sustainable, diverse water supply portfolio. CUWA member agencies and their retailers actively collect and use over 500,000 acre-feet per year (AFY) of urban stormwater runoff and are working to expand this capacity. Given the state and other stakeholder's desire to greatly expand urban stormwater capture, CUWA developed a white paper to help inform the dialogue. Good understanding of what conditions offer the best potential opportunities to expand cost-effective stormwater capture projects will foster development of realistic goals.

Marty Adams, CUWA Board Chair

Cindy Paulson, CUWA Executive Director

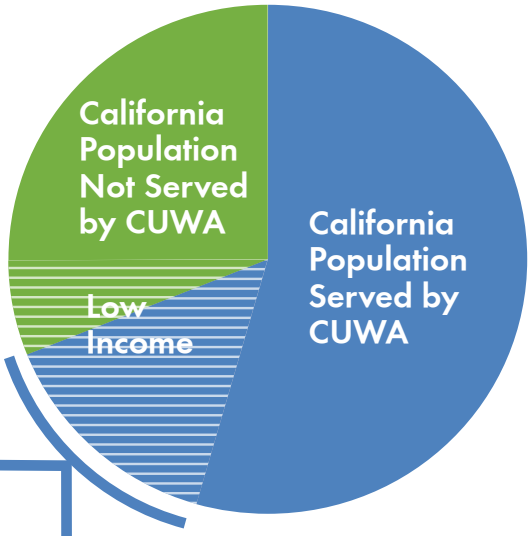

SCVWD; Guadalupe River

COLLABORATING ON SOLUTIONS TO CALIFORNIA'S BIGGEST WATER CHALLENGES

TACKLING CALIFORNIA'S WATER ACCESSIBILITY AND AFFORDABILITY ISSUES

Keeping water affordable is a central mission for CUWA agencies. Water service affordability for CUWA's low-income customers is of increasing concern as a variety of forces put inflationary pressure on agencies' costs. As further described in CUWA's Water Affordability Policy Principles, CUWA agencies use a variety of approaches within existing municipal, regulatory, and legislative constraints to keep water affordable to low-income households within their largely urban service areas.

Many small systems (15 – 3,300 connections) and non-community water systems (e.g., schools, daycare facilities, remote small developments) face similar financial pressure, but their small service base can make provision of safe, clean, affordable water difficult, especially when supply or impaired water quality challenges arise. These water systems often do not have sufficient technical, managerial, and/or financial capacity to comply with regulations and reliably produce safe drinking water or identify alternative supplies. This is a much smaller fraction of the population, but comprises some of the most vulnerable in the state.



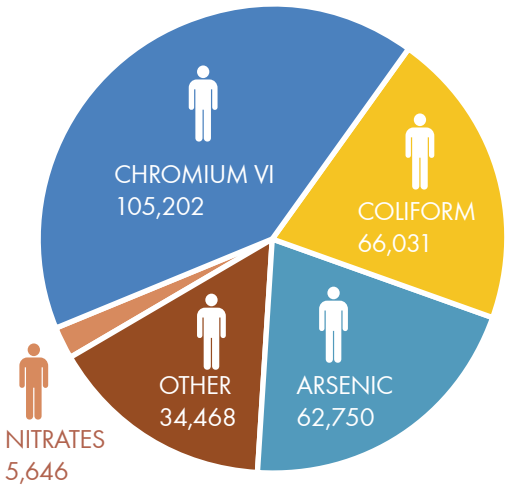
More than 5 million people served by CUWA agencies struggle with affordability

Of the 27 million people in CUWA agencies' service areas, more than 5 million are impacted by water affordability and cost of living issues (2015, CUWA Survey). The average annual income for these households is less than $25,000, with up to 5% of that amount often spent on water.

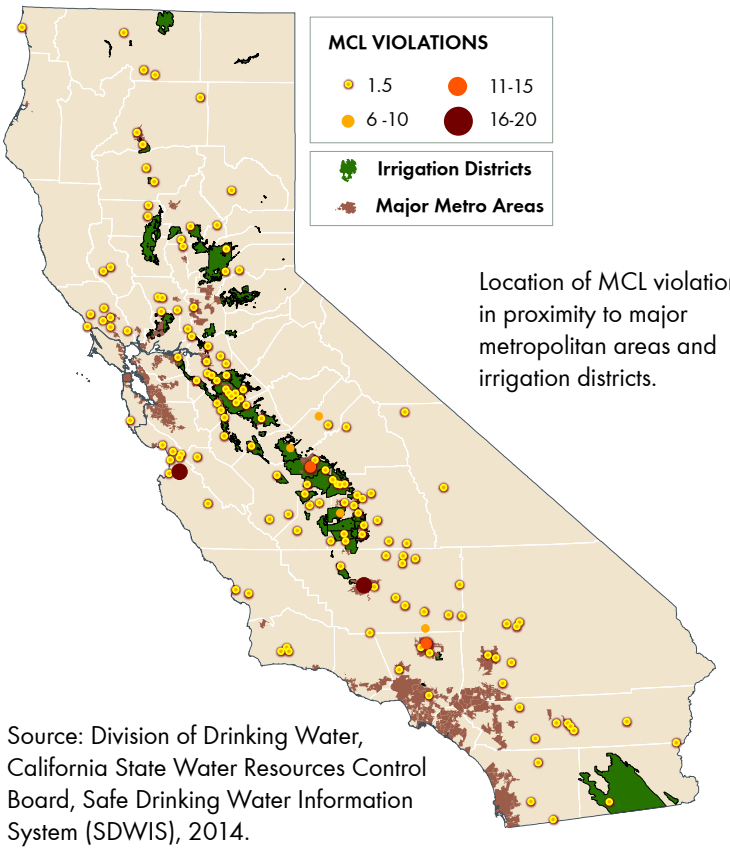
It is unacceptable to CUWA that nearly 300,000 people in rural areas of California are unable to turn on their tap and access clean, safe water. CUWA is committed to supporting the development of targeted solutions addressing a range of water quality, utility capacity, and financial challenges for rural disadvantaged communities (DACS). CUWA has been working with other agencies and organizations to explore workable and timely solutions for restoring access to safe, high-quality water for DACs across California that face such supply and water quality challenges. CUWA favors solutions that can be accomplished without exacerbating the affordability concerns of our agencies' low-income customers, which is part of the reason CUWA does not support a public goods charge for water.

CUWA believes that solutions for rural DACs are within reach. CUWA is working with the State Water Resources Control Board (State Board) Division of Drinking Water (DDW), the Governor's Office, the Department of Water Resources (DWR), and the environmental justice community to characterize the water quality challenges California DACs face, identify potential solutions, and build workable scenarios for enacting the most viable, practical alternatives identified. This collaborative effort will help move the state closer to its goal of affordable access to safe drinking water for all Californians.

These figures (at right) refer to the nearly 300,000 people (<0.01% of California's population) served by small public water systems (151-3,300 connections) and small non-community water systems that have been impacted by these water quality issues.



Assessment is based on two or more MCL violations in 2014.



Location of MCL violations in proximity to major metropolitan areas and irrigation districts.

Source: Division of Drinking Water, California State Water Resources Control Board, Safe Drinking Water Information System (SDWIS), 2014.

ENHANCING CONFIDENCE IN POTABLE REUSE WITH A NEW OPERATOR TRAINING AND CERTIFICATION FRAMEWORK

CUWA agencies are working hard to maximize beneficial use of all available water sources to enhance the resilience and reliability of their water supply portfolios. As noted in CUWA's Water Supply Reliability Report, demand management and water supply diversification are critical elements of ensuring water supplies in an uncertain future. Water reuse is essential to California's water supply portfolio, and the drought has elevated awareness of potable reuse as a locally controlled, drought-resistant, high-quality drinking water supply source. Increased interest in and accelerated development of water purification projects for potable reuse is tempered by the commitment to proceed deliberately to ensure that potable reuse is fully protective of public health and the environment. A robust operator training and certification framework will be an intrinsic element of successful widespread implementation of potable reuse in California.

ACWD; water treatment plant operator

A new certification program will help ensure that potable reuse systems are being operated by fully qualified individuals.

SCVWD's advanced water purification center is providing new, locally-controlled drought resistant water supplies through potable reuse.

In FY2016, CUWA collaborated with WateReuse California, the California-Nevada Section of the American Water Works Association (CA-NV AWWA), the California Association of Sanitation Agencies (CASA), the California Water Environment Association (CWEA), and the State Board's DDW to develop a proposal for an industry-supported framework for potable reuse operator training and certification. Four potential approaches were presented at a CUWA-facilitated workshop in October 2015 to gain consensus on a strategy to present to DDW. A wide range of utility and state regulatory agency representatives in attendance agreed that a special advanced water treatment or potable reuse module to enhance existing drinking water and wastewater certification would be the best choice.

The agreed-upon approach and several strategic recommendations were presented as part of a white paper to the DDW's Advisory Committee, who incorporated the recommendations into their report to DDW on several topics associated with the feasibility of developing direct potable reuse criteria.

The City of San Diego's public outreach programs, including free tours of the 1 mgd demonstration Pure Water Facility, are leading the way to enable a better understanding of potable reuse.

CUWA sponsored and facilitated a collaborative workshop to bring utilities and governmental and water association partners together to develop a framework for certification programs to ensure potable reuse is being operated safely and reliably.


ACWD's Quarry Lakes, Fall 2013

ADDRESSING CHANGING WATER SUPPLY CONDITIONS

With near-normal rainfall in many areas, water supply conditions significantly improved in some parts of the state, while others still received subnormal rainfall. CUWA agencies have been managing this shifting landscape of water supply while continuing to plan and manage their water resources in preparation for another potentially dry year in 2017.

CUWA staff and agency representatives have been engaged in statewide drought discussions since early 2014. This intensive, consistent effort has included attending State Board meetings to follow the reports on the Emergency Water Conservation Regulation, and collaborating internally and externally to provide input and formal testimony to the State Board. This year, CUWA submitted several comment letters to the State Board to provide recommendations on drought response, including revisions to the Emergency Regulation and conservation pricing.

Some areas of California experienced near-normal or normal rainfall, allowing some reservoirs to significantly replenish.


ACWD's Quarry Lakes, Winter 2016

DROUGHT INITIATIVES & EMERGENCY REGULATION

Reflecting the varying perspectives of our member agencies, CUWA spoke with a strong, united voice regarding the needed flexibility in the amended Emergency Regulation.

The State Board's amended Emergency Regulation involves a supply-based self-certification and reflects much of CUWA's input and recognizes "persistent yet less severe drought conditions throughout California."

The supply-based certification has allowed CUWA agencies to evaluate the drought resilience of their water supplies on a case-by-case basis and develop management plans that best suit each agency's circumstances. This lets water providers best balance the need for conservation to maintain supply resilience against their fiduciary responsibilities to their ratepayers.

SDCWA has added seawater desalination as part of its program to diversify its water supply portfolio.

Maintenance is a critical component of WUE. MWDSC is working to minimize water loss through projects like canal lining work on the Colorado River Aqueduct and relining some of its pipelines. (Courtesy of MWDSC)

SDCWA; drought-tolerant landscaping

COLLABORATING ON LONG-TERM WATER USE EFFICIENCY

CUWA agencies managed the drought successfully for two reasons – because our customers responded to calls for emergency reductions and because our agencies are well prepared with diverse water supply portfolios. A large part of the jump in conservation was achieved through advances in WUE. As populations grow and water pressures mount from multiple directions, CUWA agencies know that WUE must become the new normal for all Californians.

To capitalize on the forward momentum created by the drought, Governor Brown issued Executive Order (EO) B-37-16, which directs state agencies to develop a long-term WUE framework (among other actions). CUWA and our agencies have engaged in the stakeholder process and formalized positions on the framework development. Our agencies remain committed to building on the recent gains in public understanding to establish a cultural shift toward WUE as a California way of life. CUWA and our agencies continue to collaborate with state agencies and other stakeholders to encourage development of an innovative, fair, and reasonable long-term WUE framework.

Seismic hazards, landslides and age cause pipes to break. To make its infrastructure more water-tight, EBMUD uses leak detection technology to locate leaks before pipes fail.

Regular maintenance and inspection of its storage and distribution system helps SFPUC minimize water losses and ensure its customers receive high quality water. (© SFPUC)

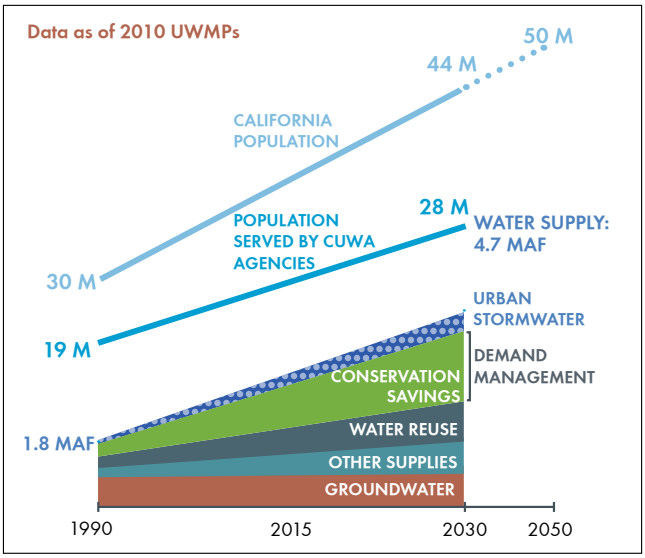
In preparation for anticipated El Niño storms, Zone 7 and other local emergency response agencies hosted a community flood preparedness workshop.

Water quality and maintenance are priorities for CCWD, as is customer service. Employees working in neighborhoods implement practices to ensure water quality and interact positively with customers.

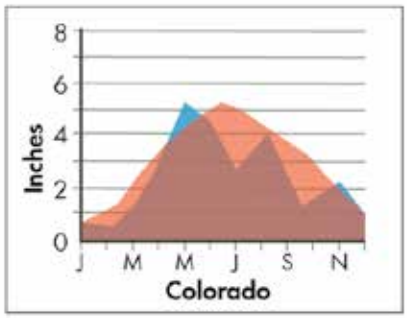
EXPLORING URBAN STORMWATER AS A POTENTIAL SUPPLY SOURCE

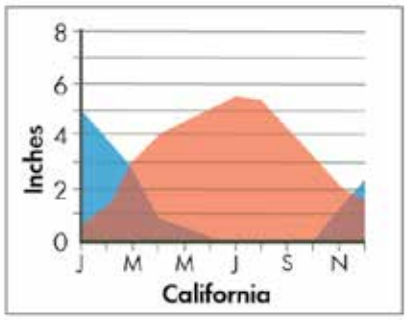
Stormwater capture has long been an integral part of CUWA agencies' water supply portfolios above urbanized areas. California's system of surface water reservoirs collect upcountry runoff to serve as potable water sources while providing flood protection and recreation for millions of visitors each year. There is now growing interest in the potential of urban stormwater as a source of water supply in California. CUWA has developed a white paper to help inform this ongoing statewide dialogue.

CUWA member agencies and their retail members actively collect and use over 540,000 AFY of urban and near urban stormwater runoff, and they are working to significantly expand this capacity. These projects range from decentralized consumer-involved programs to centralized agency-driven projects that focus on groundwater recharge and the collection of runoff from less developed areas into existing reservoirs.



Much stormwater is captured in upstream watersheds and already used for supply. CUWA agencies are committed to leveraging urban stormwater as a water supply resource where feasible and cost effective.





Unlike some regions, California's Mediterranean climate provides rain (blue) in the winter and not in the summer, when irrigation needs (red) are greatest.

Overall, urban stormwater does not comprise a large piece of the statewide water-supply portfolio due to logistical and cost limitations. But in areas, where conditions are right, it can be a significant component of the total water supply.

CUWA agencies and others are actively pursuing new opportunities where site-specific conditions are conducive to urban stormwater capture. A major challenge of urban stormwater capture concerns the practical details associated with capturing intermittent, infrequent large-flow events. There are inherent costs and logistical trade-offs to maximizing storm flow yield in urban areas, and environmental demands can restrict diversion. The best opportunities often build on existing infrastructure, proximity to aquifer storage, and partnering with other agencies. The types and extent of these projects are strongly influenced by local conditions. Carefully tailoring projects to best suit local conditions will help urban stormwater capture grow in a way that provides the best range of benefits to the greatest number of entities and makes urban capture most affordable.

LADWP is collaborating with local agencies, non-governmental organizations, and private industry to promote distributed stormwater capture as a practical, sustainable approach to enhance water quality, augment water supply, and reduce flooding.

ACWD diverts rainfall runoff into former quarry pits providing both groundwater recharge and a public recreation area.

LOOKING AHEAD

CUWA is focused on providing continued leadership for California's sustainable water future. In the midst of increasing uncertainty, new ways of managing California's water resources are essential. CUWA sees the benefit of bringing a One Water perspective to water management statewide. CUWA recognizes the importance of a collaborative, integrated approach to achieve long-term resiliency and reliability for the state's sustainable water supply. Partnerships are essential to optimizing opportunities, mitigating risks, and capitalizing on finite fiscal resources. By working together, CUWA provides a unified urban voice and continues to advance the science and practice of providing safe, clean drinking water for everyone in California

GROWING IN MEMBERSHIP: SPOTLIGHT ON FRESNO

SUSTAINABLE, AFFORDABLE SUPPLY FOR THE FUTURE

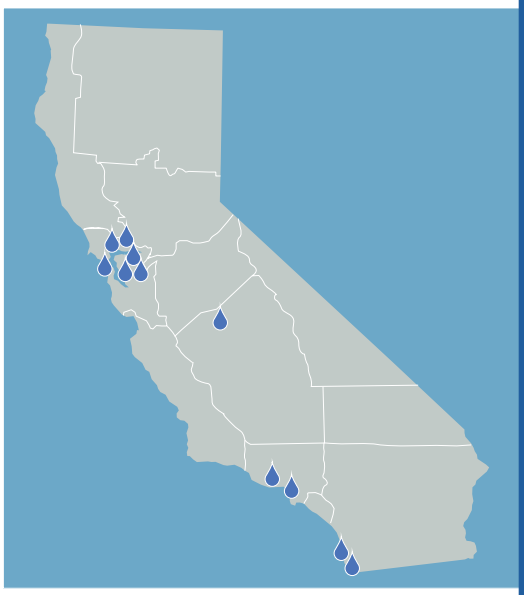
For the City of Fresno, CUWA's newest member, ensuring a sustainable and reliable water supply in the face of dwindling groundwater supplies and persistent drought conditions is essential to their present and future prosperity. As part of their Recharge Fresno program, the city is investing more than $400 million through 2019 to ensure a safe and reliable water supply at all times. The new Southeast Surface Water Treatment Facility will be complete in 2018, maximizing use of surface water allocations during normal years and allowing them to reduce overuse of groundwater. Continued efforts in demand management and an increase in water reuse are other key goals.

Water affordability is also of critical importance to Fresno. In addition to adopting a 5-year rate plan designed to be equitable and affordable, while still being sufficient to help fund essential water improvements, Fresno also offers low-income assistance to those in need.

The City of Fresno hosted Water Reliability Community Forums to educate the public about water resource challenges, potential solutions, and fair and reasonable funding solutions.

11

CUWA MEMBER AGENCIES



CUWA welcomes the City of Fresno as a new member, providing perspective from the rapidly growing inland area of the state.

As of 2013, 70% of the state's population resides within the areas served by CUWA member agencies.

RETAIL

- Alameda County Water District (ACWD)
  Bob Shaver, General Manager
- City of Fresno (Fresno)
  Georgeanne White, Assistant Director of Public Utilities and Water Policy
- East Bay Municipal Utility District (EBMUD)
  Alex Coate, General Manager
- Los Angeles Department of Water and Power (LADWP)
  Marty Adams, Chief Operating Officer and CUWA Board Chair

RETAIL/WHOLESALE

- Contra Costa Water District (CCWD)
  Jerry Brown, General Manager
- City of San Diego Public Utilities Department (San Diego)
  Halla Razak, Director
- San Francisco Public Utilities Commission (SFPUC)
  Michael Carlin, Deputy General Manager/and CUWA Board Secretary/Treasurer

WHOLESALE

- Metropolitan Water District of Southern California (MWDSC)
  Deven Upadhyay, Manager, Water Resource Management Group
- Santa Clara Valley Water District (SCVWD)
  Jim Fiedler, Chief Operating Officer
- San Diego County Water Authority (SDCWA)
  Maureen Stapleton, General Manager
- Zone 7 Water Agency (Zone 7)
  Jill Duerig, General Manager

CUWA STAFF

Executive Director, Cindy Paulson

Staff Engineers, Jenny Gain, Wendy Broley and Erin Mackey

POPULATION SERVED: 27 MILLION

SDCWA's Carlsbad Desalination Plant

FOR MORE INFORMATION See www.cuwa.org for recent work, including:

CUWA Policy Principles

- One Water (November 2016)
- Water Affordability (September 2015)
- Water-Energy (October 2014, joint with CMUA)
- Climate Change (October 2013)
- Water Reuse (July 2013)
- Cap and Trade Investment Plan (April 2013, joint with CMUA)
- Reliable Water Financing (March 2013 update, joint with CMUA)
- Water Supply Reliability (December 2012)
- Water Quality (April 2012)

CUWA Positions

- Development of a Long-Term Water Use Efficiency Framework (September 2016)

CUWA Reports and White Papers

- Stormwater White Paper (November 2016)
- Potable Reuse White Paper (February 2016)
- Meeting California's Water Needs–Water Reuse Update (March 2014, updated October 2014)
- Water Supply Reliability Report (August 2012)
- Public Investment White Papers

  Phase 1 – (October 2011) Phase 2 – (March 2012)

CUWA Fact Sheets

- Tackling California's Water Accessibility and Affordability Issues (August 2016)
- Potable Reuse (April 2015)
- CUWA Conservation and Water Use (February 2015)
- CUWA-CMUA Water-Energy (January 2015)
- Investing In Reliable Water Service (August 2013)