



- Transmittal of February 2017 Metropolitan Annual Report to the California State Legislature on Achievements in Conservation, Recycling and Groundwater Recharge

Summary

Section 130.5 of the Metropolitan Water District Act requires Metropolitan to prepare and submit, on or before February 1 of each year, an annual report to the California State Legislature on our progress in achieving the goals of increased emphasis on cost-effective conservation, recycling, and groundwater recharge.

Attachments

Attachment 1: Annual Report to the California State Legislature, Achievements in Conservation, Recycling, and Groundwater Recharge February 2017 (Final).

Detailed Report

Section 130.5 of the Metropolitan Water District Act requires Metropolitan to prepare and submit, on or before February 1 of each year, an annual report to the California State Legislature on our progress in achieving the goals of increased emphasis on cost-effective conservation, recycling, and groundwater recharge. The attached report presents the achievements during the fiscal year 2015/16. Metropolitan submitted this report to the California State Legislature on January 18, 2017.

In conjunction with this report and in accordance with Section 130.5, Metropolitan held a public hearing on December 12, 2016, on this matter, where Metropolitan reviewed its achievements in promoting cost-effective conservation, recycling, and groundwater recharge. Metropolitan also invited to the public hearing knowledgeable persons from the fields of water conservation and sustainability. Individuals and their comments received include the following:

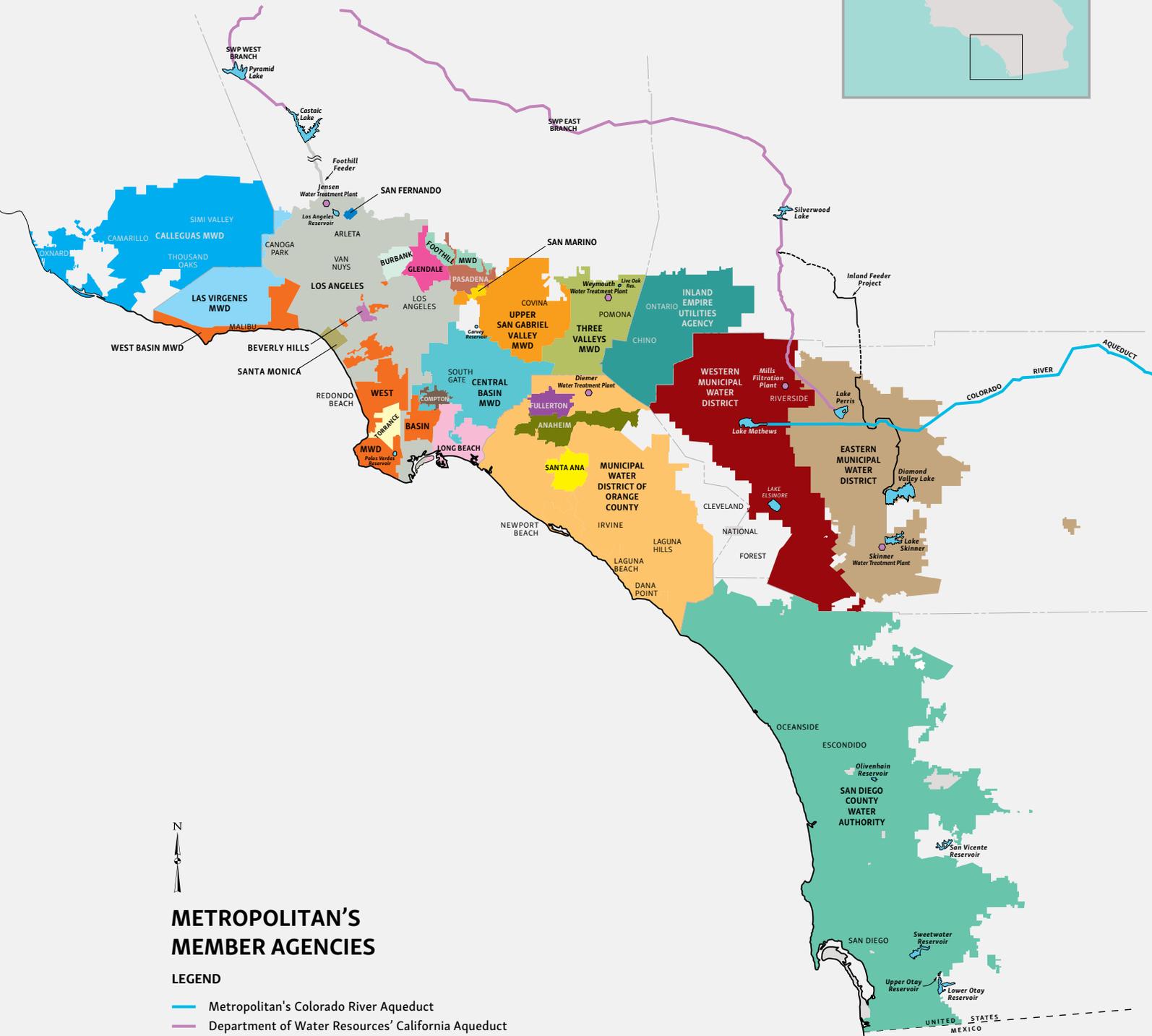
- Conner Everts, Executive Director, Southern California Watershed Alliance
- Dr. Hal Nelson, Claremont Graduate University
- Mark Tetterer, Recycled Water Development Manager, Irvine Ranch Water District
- Darryn Marshall, General Manager, Del Sur Community Association
- Joe Mouawad, Senior Director of Engineering, Eastern Municipal Water District
- Robert Skillman, South LA Site Director, and Eriberto Diaz, Corps Member, Los Angeles Conservation Corps
- Anita Matlock, Area Specification Manager, Rain Bird Corporation
- Dennis Cushman, Assistant General Manager, San Diego County Water Authority
- Chris Klein, President, LA Galaxy (written comments submitted)
- Jennifer Persike, Deputy Executive Director of External Affairs and Member Services, Association of California Water Agencies (written comments submitted)
- Mary Ann Dickinson, President and CEO, Alliance for Water Efficiency (written comments submitted)
- Stephen Drimmer, President, Mountaingate Open Space Maintenance Association (written comments submitted)

Comments received at the public hearing are on file at Metropolitan and are available upon request.

Achievements in
Conservation, Recycling
and Groundwater Recharge

FEBRUARY 2017

Covering the
reporting period of
July 2015 – June 2016



METROPOLITAN'S MEMBER AGENCIES

LEGEND

- Metropolitan's Colorado River Aqueduct
- Department of Water Resources' California Aqueduct
- Metropolitan's Water Treatment Plants

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About Metropolitan

The Metropolitan Water District of Southern California was established in 1928 under an act of the state Legislature to provide supplemental water supplies to its member agencies in Southern California.

Metropolitan is a public agency and a regional water wholesaler. It is governed by a 38-member board of directors representing 26 member agencies that purchase some or all of their water from Metropolitan and serve about 19 million people across six Southern California counties.

The mission of Metropolitan is to provide its 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Metropolitan draws supplies from the Colorado River through the Colorado River Aqueduct, which it owns and operates; from Northern California via the State Water Project; and from local programs and transfer arrangements. An increasing percentage of Southern California's water supply comes from conservation, water recycling and recovered groundwater, which are further described in this report.

INTRODUCTION

For Southern California, the 2015/16 year marked the eighth dry year over the past decade, driving home the need to use water as efficiently as possible. The region has managed to survive this dry cycle in part due to lower water use and reserves stored in reservoirs and groundwater basins. However, groundwater levels in many basins within the service area were at or were approaching historically low levels, and Metropolitan's dry-year storage reserves reached their lowest levels since the previous drought in 2007-2009.

As all of California remained under a drought-time Executive Order by Governor Jerry Brown to reduce residential urban water use by an average of 25 percent, thousands of Southland residents took advantage of a historic \$450 million investment by Metropolitan to advance conservation through rebates for turf removal and various water-saving devices. By July 2015, available funds for the turf removal program were reserved by the applicants. The eventual result was the removal of an estimated 172 million square-feet of turf in homes and businesses throughout the Southland. A multi-million-dollar consumer awareness campaign continued in the summer and relaunched in the spring, featuring everything from ads in six languages, water-themed short songs to sing in the shower to an innovative partnership with the Los Angeles Galaxy soccer team.

The result of this comprehensive approach to conservation was a dramatic drop in water use. Southland residents lowered their actual water use at twice the levels targeted in Metropolitan's own allocation plan for reduced deliveries to the district's 26 member agencies. By 2015, daily potable per-capita water use in the Southland had dipped to 131 gallons, well below the target set for 2020 in state law.

Metropolitan's 25-year planning strategy, The Integrated Resources Plan, was updated in January 2016 setting increased targets for local supply development and conservation based on a new assessment of projected supplies and demands for the coming quarter century. The primary reasons: Lowered projections of groundwater yields from Southland basins because of years of drought and slightly lowered projections of water from Northern California via the State Water Project because of ongoing environmental challenges in the Sacramento-San Joaquin Delta.

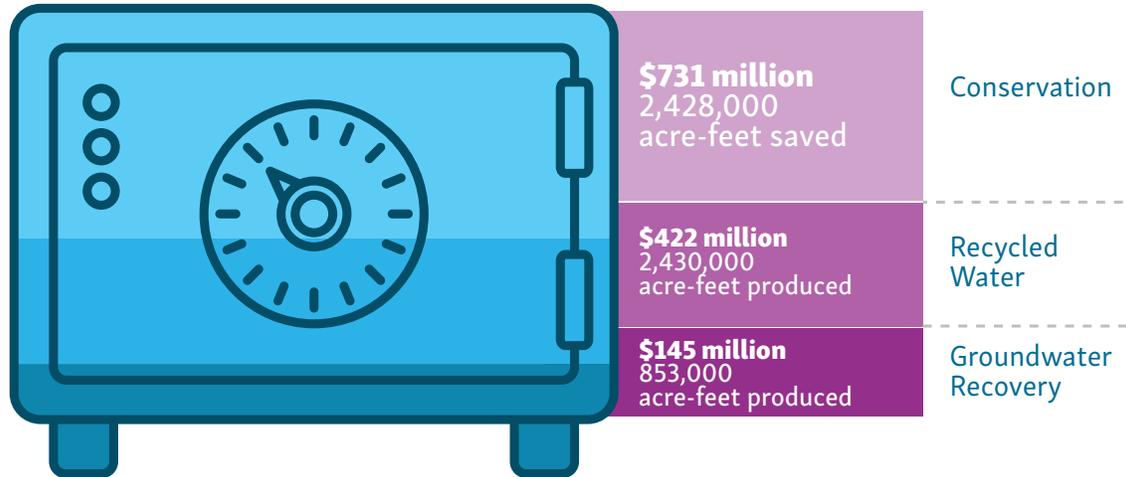
While Metropolitan has provided hundreds of millions of dollars to member agencies to advance their local projects, the district to date has not developed a new water supply within its own service area. That potential new frontier was brought to the forefront in November 2015 when the board of directors provided funds to explore a partnership with the Sanitation Districts of Los Angeles County. Detailed analysis began to explore the potential of purifying wastewater into a new regional water supply to replenish groundwater basins in Los Angeles and Orange counties and augment water supply deliveries for the entire service area. Further technical and financial studies will be necessary before a future decision can be made to advance the project. Yet the willingness of Metropolitan to explore development of a local supply demonstrates the district's commitment to a comprehensive approach to the Southland's water challenges.

Senate Bill 60 in 1999 sought to advance conservation in Southern California. Lowering demand has proven invaluable for the region during this prolonged dry cycle and will continue to improve Metropolitan's reliability going forward.

Achievement Scorecard

Conservation		
FY 2015/16 Total Water Saved¹	978,000 acre-feet	
New Water Saved From Metropolitan Conservation Credits Program ²	26,000 acre-feet	
Water Saved From Existing Metropolitan Conservation Credits Program ³	203,000 acre-feet	
FY 2015/16 Investment		
Metropolitan Conservation Credits Program Investment ⁴	\$236 million	
Member Agency Conservation Investment ⁵	\$48 million	
Metropolitan Outreach & Education	\$5.2 million	
Cumulative Savings Since 1990		
Water Saved From Metropolitan Conservation Credits Program ⁶	2,428,000 acre-feet	
Metropolitan Conservation Investment (excl. funding by member agencies)	\$731 million	
Recycled Water		
FY 2015/16 Production⁷	443,000 acre-feet	
Water Produced From Projects Receiving Metropolitan Funding	178,000 acre-feet	
Water Produced From Projects Without Metropolitan Funding (incl. Santa Ana River base flow)	265,000 acre-feet	
FY 2015/16 Investment		
Metropolitan Funding	\$30 million	
Cumulative Production & Investment Since Inception⁸		
Production With Metropolitan Funding	2,430,000 acre-feet	
Metropolitan Investment	\$422 million	
Groundwater Recovery		
FY 2015/16 Production	90,000 acre-feet	
Water Produced From Projects Receiving Metropolitan Funding	49,000 acre-feet	
Water Produced From Projects Without Metropolitan Funding	41,000 acre-feet	
FY 2015/16 Investment		
Metropolitan Funding	\$8 million	
Cumulative Production & Investment Since Inception⁹		
Production With Metropolitan Funding	853,000 acre-feet	
Metropolitan Investment	\$145 million	
Conjunctive Use Program ¹⁰		
Metropolitan Cumulative Capital Investment	\$27 million	
Proposition 13 Grant Funds Administered by Metropolitan	\$45 million	
Water Stored Since Program Inception through August 2016	273,000 acre-feet	
Water Extracted Since Program Inception through August 2016	255,000 acre-feet	
Groundwater Replenishment ¹¹		
FY 2015/2016 Delivery	95,000 acre-feet	
Cumulative Replenishment Delivery since 1984	3,461,000 acre-feet	
Regional Summary		
	FY 2015/16	Cumulative
Metropolitan's Investment in Water Conservation, Recycled Water and Groundwater Recovery	\$274 million	\$1,298 million

Metropolitan's Cumulative Investment: Nearly \$1.3 billion



Footnotes for the Achievement Scorecard

Numbers in this report are based on the best available information during the production of this report and are subject to revision for accounting reconciliation.

1. Annual total savings include Metropolitan's Conservation Credits Program, code-based conservation achieved through legislation, building and plumbing codes and ordinances, reduced consumption resulting from changes in water pricing, and pre-1990 device retrofits.

2. New water savings achieved through Metropolitan's Conservation Credits Program and from member agency-funded programs initiated in fiscal year 2015/16.

3. Includes water savings initially achieved through Metropolitan's Conservation Credits Program and subsequently maintained through plumbing codes.

4. Active conservation investment includes administrative fees for contracted program vendors.

5. In addition to Metropolitan's Conservation Credits Program, member agencies and retailers also implemented local water conservation programs within their respective service areas. Member agency investment figures include rebate funding beyond rebates already provided by Metropolitan's Conservation Credits Program.

6. Cumulative water savings since 1990 include water savings initially achieved through Metropolitan's Conservation Credits Program and subsequently maintained through plumbing codes.

7. Figures reflect actual and estimated deliveries for all Metropolitan-assisted projects and payments reported for fiscal year 2015/16; cumulative production and investment reflect accounting reconciliation as data become available; annual regional production for recycled water includes an estimated 79,000 acre-feet of treated wastewater discharged to the Santa Ana River base flow that percolates into downstream groundwater basins.

8. Metropolitan initiated its Local Resources Program in 1982 to encourage production of recycled water for municipal purposes.

9. Metropolitan initiated its Groundwater Recovery Program in 1991 to encourage treatment and use of degraded groundwater for municipal purposes.

10. Construction of the conjunctive use storage programs was completed in 2008. Proposition 13 refers to Chapter 9 of the Safe Drinking Water, Clean Water, Watershed Protection, and Flood Protection Bond Act of 2000. Water extracted since program inception includes losses.

11. Figure is cumulative since 1984. Prior to 2013, Metropolitan provided replenishment water at a discounted rate to encourage long-term recharge and maintenance of groundwater basins and local reservoirs. Although the discounted replenishment rate was discontinued Jan. 1, 2013, Metropolitan continues to provide water for replenishment purposes at full service rates.



A California Friendly™ landscape replaces water-thirsty turf with vibrant color and textures.

CONSERVATION



“With the state entering its fifth year of drought and climate change threatening water resources on multiple fronts, conservation is the best way to ensure water reliability in the region.”

- Metropolitan Board Chairman Randy Record

Metropolitan and its member agencies have long been leaders in water conservation. Conservation is encouraged with financial incentives, outreach and education programs, and support for new plumbing codes and other regulations that facilitate water savings. In fiscal year 2015/16, the region saved about 978,000 acre-feet of water. Rebates funded through Metropolitan’s Conservation Credits Program generated approximately 26,000 acre-feet of new water savings last year and will continue to produce more savings in years to come. Since 1990, Metropolitan has invested more than \$731 million in conservation, \$236 million of which was spent in fiscal year 2015/16. Metropolitan supplements its conservation programs using state and federal grants when they are available.

Fiscal Year 2015/16 Conservation Program Highlights

- In the second year of its two-year budget, Metropolitan funded \$236 million in rebates and advertising to help consumers reduce water use in their homes and businesses.
- Metropolitan customers submitted 173,667 applications for a total of \$247,706,169 in funding.
- Metropolitan received a record 100 proposals for the Innovative Conservation Program in fiscal year 2015/16.
- Metropolitan’s conservation program received the Los Angeles County Green Leadership Award.

Metropolitan’s Residential Conservation Programs

Residential customers in the Southland can receive conservation rebates from Metropolitan’s SoCal Water\$mart program and through programs administered by Metropolitan’s member agencies.

SoCal Water\$mart Residential Program

SoCal Water\$mart provides rebates to residential customers to encourage the use of water-efficient products. Program rebates in fiscal year 2015/16 included high-efficiency clothes washers, high-efficiency toilets, multi-stream rotary sprinkler nozzles, irrigation controllers and rain barrels. Metropolitan estimates water savings of about 14,720 acre-feet annually from about 323,950 residential conservation device rebates funded by Metropolitan in fiscal year 2015/16.

Member Agency Residential Programs

Metropolitan also provides funding to member agencies for locally administered conservation programs. Qualifying residential projects included low-flow toilet distribution and replacement programs, direct installation of water-efficient clothes washer programs and residential water audits. Metropolitan estimates water savings of about 1,750 acre-feet annually from residential programs administered in fiscal year 2015/16.

Turf Removal

Metropolitan's turf removal program provides residential and commercial customers with financial incentives to replace their turf lawns with more sustainable landscapes. In January 2014, Metropolitan added turf removal to the SoCal Water\$mart Regional Program, making it available to customers throughout the service area. About 172 million square feet of lawn turf was removed as a result of Metropolitan's rebate program. Metropolitan estimates water savings of about 13,240 acre-feet of water annually from turf removed in fiscal year 2015/16.

The California Department of Water Resources also launched a separate turf replacement program for single-family residences. However, the program was not available for residents whose service areas had turf rebate programs that offered \$2 per square foot or more in 2014 or 2015.

High-efficiency Clothes Washers

High-efficiency clothes washers (HECW) with an integrated water factor of 3.7 or less are eligible to receive rebates. The integrated water factor is the measure of the amount of water used to wash a standard load of laundry. An HECW saves more than 10,000 gallons per

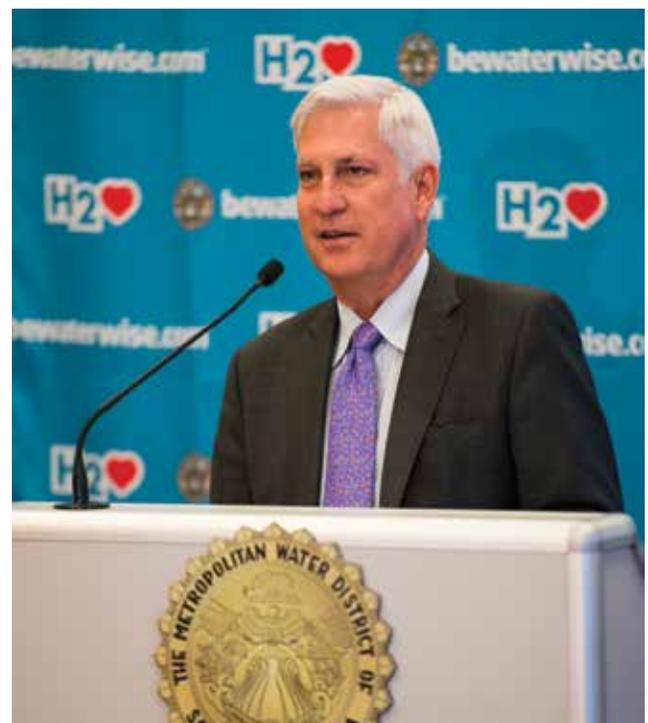
year over a conventional top-loading clothes washer. Metropolitan estimates water savings of about 780 acre-feet annually from HECW rebates funded by Metropolitan in fiscal year 2015/16.

High-efficiency Toilets

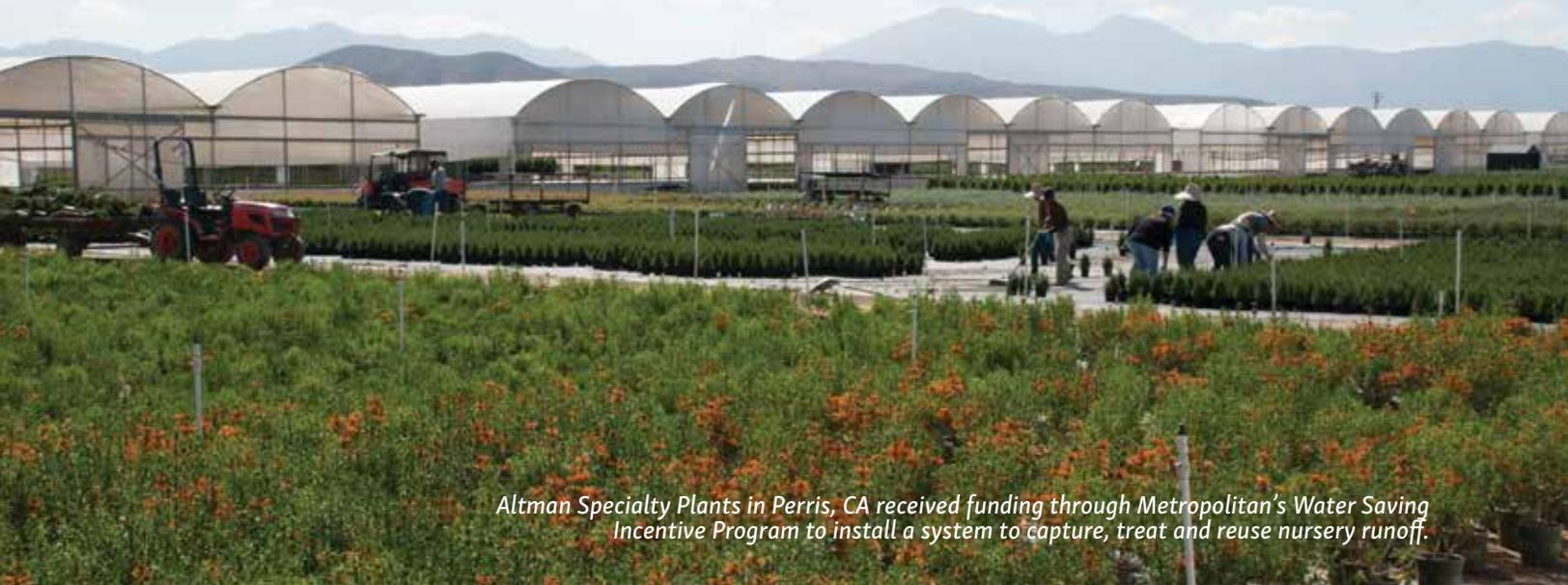
Metropolitan offers rebates for premium high-efficiency toilets. These toilets use no more than 1.1 gallons per flush and save about 30 percent when compared to older ultra-low-flush toilets (1.6 gallons per flush). Metropolitan estimates that toilet rebates issued for both residential and commercial customers in fiscal year 2015/16 will save about 7,190 acre-feet of water per year.

Metropolitan's Commercial Programs

Metropolitan's commercial conservation programs provide rebates for water-saving devices to businesses and institutions throughout Southern California. The programs are comprised of SoCal Water\$mart, member agency commercial programs, and the Water Savings Incentive Program. Metropolitan estimates savings of about 9,170 acre-feet of water annually from new rebates issued by commercial conservation programs in fiscal year 2015/16.



Metropolitan General Manager Jeffrey Kightlinger announces H2 Love advertising campaign at start-of-summer press conference.



Altman Specialty Plants in Perris, CA received funding through Metropolitan's Water Saving Incentive Program to install a system to capture, treat and reuse nursery runoff.

SoCal Water\$mart and Member Agency Commercial Programs

The majority of commercial conservation activity came from Metropolitan's SoCal Water\$mart program. In addition, Metropolitan's member and retail water agencies implemented water conservation programs for commercial sectors using Metropolitan incentives. Qualifying commercial projects included turf removal, along with direct installation of premium high-efficiency toilets and multi-stream rotating nozzles. Metropolitan estimates water savings of about 7,410 acre-feet annually from 472,620 new device rebates issued through SoCal Water\$mart in fiscal year 2015/16. An additional 1,530 acre-feet of water was saved from member agency incentive programs during the fiscal year.

Water Savings Incentive Program

The Water Savings Incentive Program is a regional pay-for-performance initiative. It is open to all commercial, industrial, institutional, agricultural and large landscape customers with qualifying projects within Metropolitan's service area. Financial incentives are available for customized water efficiency projects, including the installation of commercial or industrial high-efficiency equipment; industrial process improvements; agricultural and landscape water efficiency improvements; and water management services. Incentives are based on the amount of water saved and capped at 50 percent of eligible project costs. In fiscal year 2015/16, Metropolitan estimates savings of about 230 acre-feet of water.

Research and Development

Innovative Conservation Program (ICP)

Metropolitan's Innovative Conservation Program is a competitive grant program that evaluates water savings and reliability of new water-saving devices, technologies and strategies. The focus for the 2016 round of proposals was the water/energy nexus. With funding provided by the U.S. Bureau of Reclamation, the Environmental Protection Agency, Southern Nevada Water Authority, Central Arizona Project, Southern California Gas Company, Western Resource Advocates and Metropolitan, about \$560,000 was available. The program received about 100 project proposals.

Metropolitan Research Focus

In addition to the ICP, Metropolitan has been involved in:

- A comprehensive study on Metropolitan's turf removal program
- Partnering with the Alliance for Water Efficiency for water conservation research on the rationale for landscape choices
- Development of a conservation software planning model that allows for the input of different variables to maximize cost savings to the agency as well as water savings for the consumer
- Developing and monitoring a pilot program with Inland Empire Utilities Agency on pressure regulation
- Analyzing rain barrel rebates for potential correlation to other consumer water-saving measures or behaviors



Solar Cup™ is the nation's largest solar boat competition which drew 39 high school teams in 2016.

COMMUNICATIONS AND OUTREACH



“We want to encourage residents to make that personal connection to water as a valued resource through our H2Love campaign.”

- Metropolitan Assistant General Manager Dee Zinke

In fiscal year 2015/16, Metropolitan implemented a variety of conservation and education outreach programs. Since late 2013, the primary focus of these programs has been the drought and the need for additional conservation in order to help maintain the region’s supply reliability. In 2016, Metropolitan’s Board of Directors authorized a \$2.2 million extension to the multilingual communications, outreach and advertising campaign that was launched on July 1, 2015. The campaign continued the “Let’s All Take A Turn” message, but added additional messaging around a new trademarked logo of H2Love, and the tagline, “Love Water. Save Water.” which emphasizes the value of water conservation not only during the drought, but every day. Working with Metropolitan’s 26 member agencies, the research-based advertising campaign includes several months of media coverage through radio live reads, 53 community newspapers, digital and online advertising, other customized materials and special outreach events throughout Southern California. The entire campaign is produced in five languages: English, Spanish, Mandarin, Korean and Vietnamese and Print advertising included Tagalog language materials.

The campaign’s design was informed by extensive research through focus groups, telephone interviews, and web surveys conducted in two languages throughout Metropolitan’s service area. The media strategy was developed to effectively target the diverse communities, age groups, socioeconomic factors, and languages spoken in the region. The “Let’s All Take A Turn” campaign supplements Metropolitan’s strong program of outreach activities, social and traditional media, and business outreach efforts to spread the word to residents, businesses, community leaders and elected officials about the importance of water conservation.

A new component of the conservation campaign was an official sponsorship with Major League Soccer’s LA Galaxy. This partnership provided digital signage at the StubHub Center in Carson, water-awareness exhibit booths at four home games, public service announcements and social media videos featuring LA Galaxy goalie Brian Rowe, cross-promotion of water-saving messages on Metropolitan and LA Galaxy social media platforms, Facebook Live events with actor Johnny Rey Diaz and outreach activities with the LA Galaxy community foundation organization.

As part of the campaign, Metropolitan also conducted several television interviews and placed a series of advertorial news stories in the online editions of the Los Angeles Times and Nativo for added value news stories. Metropolitan placed advertorials on digital media focusing on the seriousness of the drought, what people can do to save water and offering landscape and gardening advice including a Facebook Live broadcast by Sunset Magazine which was viewed by more than 7,000 people. In addition, Metropolitan used social and digital media to reach large audiences in cost effective and optimized strategies, including setting up playlists on Pandora and its Spanish-language equivalent, Uforia. The playlists promote shorter showers by listening to

five-minute-long songs about water or rain. These elements promoted the ongoing need for conservation in Southern California, describing long-term benefits of investments in water storage and local water resources, and the availability of rebates and incentives for turf removal and water-saving devices and appliances.

Throughout the year, Metropolitan officials conducted dozens of interviews with news reporters to discuss water-related topics such as the impact of the drought, water supply reliability and conservation. As part of this public outreach, Metropolitan’s General Manager blogged on Metropolitan’s website about various water challenges facing the region.

Metropolitan’s Partnership with the LA Galaxy: Results

14,800
viewers  **LIVE**

Facebook Live broadcasts at games



31,000
people
reached

With custom Snapchat geofilters



250,200
people 

*Attended 2016 LA Galaxy games
featuring H2Love messages*

H2  **350 million**
impressions

Made from H2Love/LA Galaxy sponsorship

“Californians conserve. It’s part of who we are. So our goal is to think every day about our water use and how we can be more efficient. These may seem like small gestures, but together our conservation really adds up.”

- Metropolitan External Affairs Manager Sue Sims

In fiscal year 2015/2016, Metropolitan continued a focused outreach effort for leading businesses and industries that are high-volume water-use customers within its service area. Metropolitan’s executive management met with business executives to discuss Southern California’s water outlook, key policy issues, and opportunities to collaborate on water use efficiency projects that will reduce demand for potable water.

Metropolitan’s conservation website, bewaterwise.com[®], provided water conservation information to hundreds of thousands of unique visitors each year. The website offers conservation ideas, drought information, and links to rebates and incentives for homes, businesses, industry, agriculture and institutions. In addition to a Spanish language version of the site, Metropolitan created a new Chinese version of the website. The site also features California Friendly[®] landscape training classes where home gardeners and landscape professionals can learn the latest ways to reduce water use in landscapes. Classes cover the basics of irrigation systems, watering and fertilizing, landscape design and plant identification.

Metropolitan’s presence on social media grew dramatically with more than 30 million impressions on Facebook and more than 300,000 organic impressions on Twitter. Instagram, launched in September 2015, grew to more than 1,300 followers.

One of the outreach highlights was the commemoration of the 75th anniversary of the first deliveries to Southern California from the Colorado River Aqueduct. More than 500 people attended an event at Union Station in June 2016 to hear from noted historian Dr. Kevin Starr about the importance of Metropolitan’s leadership and reliable water deliveries to Southern California.



Metropolitan’s partnership with the LA Galaxy extended the conservation message with cross promotion across different media platforms.



Metropolitan's revamped space at the California Department of Water Resources' Vista del Lago Visitors Center at Pyramid Lake welcomes more than 125,000 visitors annually.

2016 Awards Sampling



A museum-quality exhibit was created for the headquarters lobby, and new videos and historical information was showcased on social media, the Metropolitan website and in publications.

The success of Metropolitan's outreach activities was recognized with several prestigious awards including The National Association of Government Communicators' Communicator of the Year; Green Leadership Award 2016, County of Los Angeles; The American Academy of Environmental Engineers and Scientists (AAEES) Environmental Communications Award; Diversity in Communications Award from the national organization PR News Group; and the PRISM Award from the Public Relations Society of America, Los Angeles chapter.

Community Outreach

Metropolitan continues to maintain a strong presence in community water resource and conservation education. Through its Community Partnering Program, Metropolitan co-sponsored and staffed booths at more than 60 water-related education and outreach programs for member agencies, community groups, and nonprofit organizations. Activities included community events, conservation and garden projects, publications in multiple languages, and educational materials dealing with watersheds, conservation and water recycling.

The reopening of Metropolitan's exhibit at the California Department of Water Resources' Vista del Lago Visitors Center at Pyramid Lake provides information on water resources, environmental programs and conservation to more than 125,000 visitors annually. At Metropolitan's Diamond Valley Lake Visitor Center, more than 10,000 visitors and 7,000 students learned about Metropolitan's water systems and operations, programs and water stewardship.

Education Programs

Metropolitan continues to update and expand a comprehensive K-12 water education curriculum that meets state standards for each grade level in the areas of science, math, language arts and social studies classroom materials. Metropolitan worked with member agencies to hold more than 700 water education events and promoted critical thinking of water through online and social media engagements. These efforts directly exposed more than 170,000 students, teachers, parents and educators to Metropolitan's water education programs, curricular materials and resources. Metropolitan's water education services are offered to educators within Metropolitan's service area at no charge, enabling greater access to quality materials for outreach to underserved communities. These efforts led to Metropolitan's Education Unit being awarded the Governor's

Environmental and Economic Leadership Award (GEELA), California's highest environmental honor, as well as the PR News National Diversity Award.

The World Water Forum College Grant Program is a partnership between Metropolitan, the U.S. Bureau of Reclamation, the Sanitation Districts of Los Angeles County, Water For People, and Friends of the United Nations. The program provides grants to colleges and universities for local and globally focused projects that foster a better understanding and community awareness of water issues, while improving technology related to water supply and delivery, water conservation and sanitation programs. The fourth funding cycle of the Southern California World Water Forum College Grant Program began

in September 2014. Since 2004, the Metropolitan grant program has provided \$600,000 to more than 62 college and university teams. This year, Metropolitan was awarded a grant from the USBR which secured funding for a fifth cycle of the World Water Forum that will launch in fall 2017.

Solar Cup™ is the nation's largest solar-powered boat competition and in 2016 drew 39 high school teams to demonstrate advanced skills in engineering, math and communication, and water conservation.

The "Water is Life" Student Art and Calendar Program features student artwork representing the importance of conservation and was viewed by more than 20,000 people.



Metropolitan's college grant program, World Water Forum, sponsors exploration of local, regional and global water supply and energy solutions.



Purple pipes signify one of many recycled water programs supported by the Local Resources Program and member agencies.

LOCAL RESOURCES



“When Metropolitan says we are looking for conservation and local supplies to meet all new future demands, we mean it.”

- Metropolitan Assistant General Manager/Chief Operating Officer Debra Man

Metropolitan provides financial incentives through its Local Resources Program (LRP) for the development and use of recycled water and recovered groundwater. Since the inception of the LRP in 1982, Metropolitan has provided \$422 million to produce about 2.4 million acre-feet of recycled water. Metropolitan also provided approximately \$145 million to produce 853,000 acre-feet of recovered degraded groundwater for municipal use. To date, there are 75 water recycling projects and 24 groundwater recovery projects in the program.

Water Recycling and Groundwater Recovery

In fiscal year 2015/16, Metropolitan’s funding supported the production of 178,000 acre-feet of recycled water for non-potable and indirect potable uses. In addition, another 265,000 acre-feet of recycled water was produced by local agencies through other funding sources. In fiscal year 2015/16, Metropolitan supported projects that produced 49,000 acre-feet of recovered groundwater for municipal use. An additional 41,000 acre-feet of recovered groundwater was produced by local agencies through other funding sources. Figures 1 and 2 show total recycled water and groundwater recovery production in Metropolitan’s service area, including local agency funded projects.

Recycled Water

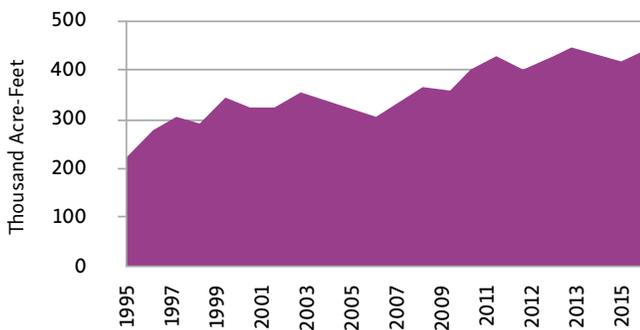


Figure 1

Groundwater Recovery

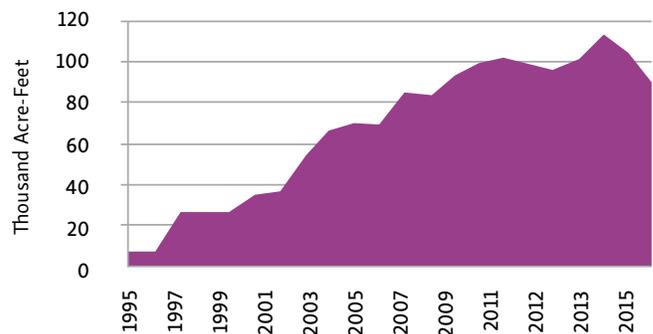


Figure 2

Fiscal Year 2015/16 Local Resource Highlights

- Metropolitan continued the On-site Retrofit Pilot Program, which was launched in July 2014, to provide financial incentives for conversion of potable irrigation or industrial water systems to recycled water. Metropolitan, with additional financial support from the U.S. Bureau of Reclamation, has committed to provide up to \$8.2 million for converting about 8,400 acre-feet of potable water to recycled water. In April 2016, the Metropolitan board approved an extension of the On-site Retrofit Program to June 2018 and authorized an additional \$10 million.
- Nine recycled water, groundwater recovery and seawater desalination projects with a collective yield of about 81,000 acre-feet per year were submitted by member agencies.
- Metropolitan, in collaboration with its member agencies and local agencies and organizations, initiated work to develop a regional recycled water geographic information system (GIS) database to identify potential recycled water needs.

Water-use Efficiency Strategy

Metropolitan and the Natural Resources Defense Council co-sponsored the Water Conservation Act of 2009 (SBX7-7), which requires a 20 percent reduction statewide in urban per capita potable water use by 2020. Per capita water use is one indicator of progress in advancing water-use efficiency. Metropolitan's baseline is 181 gallons per capita per day (GPCD), and the 2020 reduction target is 145 GPCD. Between 2011 and 2014, there was a slight increase in per capita water use in part due to continued economic recovery from the Great Recession and drier weather as compared with previous years. During calendar year 2015, the region responded to the governor's Executive Order B-29-15 that mandated a 25 percent emergency reduction in urban water use. This resulted in a regional potable GPCD of 131, which was below the 2020 target.

Groundwater Management

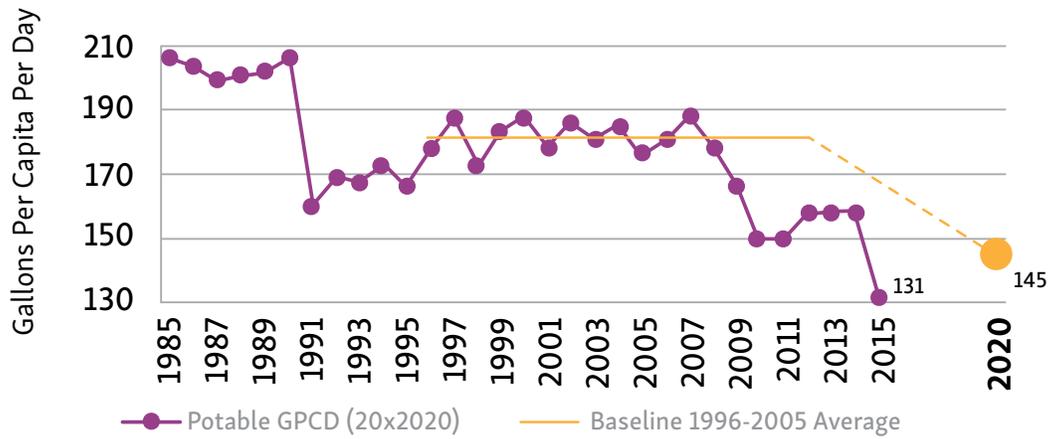
Metropolitan partners with local agencies to store imported surface water in groundwater basins for use in times of shortage under conjunctive use agreements. Metropolitan currently has nine storage projects with nearly 212,000 acre-feet of storage capacity and can withdraw up to 70,000 acre-feet annually during shortage years. In fiscal year 2015/16, Metropolitan produced about 18,000 acre-feet for drought mitigation.

Foundational Actions Funding Program

The pilot Foundational Actions Funding Program addresses regional funding needs for actions that reduce barriers to future water resource production. The program is open to Metropolitan's member agencies, which are required to match the funding dollar-for-dollar with non-Metropolitan funds. Proposed actions consist of technical studies or pilot projects related to recycled water, seawater desalination, groundwater and stormwater. Metropolitan entered into 13 contracts for technical studies and pilot projects totaling \$3 million. Metropolitan received 11 final reports in early 2016, and the remaining final reports are expected to be completed by fiscal year 2016/17.



Target: 20% Reduction by 2020
Metropolitan's Service Area Calendar Year



Notes about the graph:

1. Calendar year data.
2. 2015 GPCD based on best available data as of April 2016 and is subject to change.

3. Baseline per capita water use based on 1996-2005 average (181 GPCD).
4. Target GPCD for 2020 based on 20% reduction from baseline (145 GPCD). ●





Metropolitan has a hand in many watershed initiatives to protect source water quality and improve habitat conditions.

WATERSHED INITIATIVES



“The Tule Red Restoration Project in Solano County is a signature effort to share expenses to advance both restoration and new Delta ecosystem science research. When complete in 2018, the project will be monitored to advance the knowledge and techniques of successful restoration for this and future projects.”

- Metropolitan General Manager Jeffrey Kightlinger

Metropolitan is active on planning boards and organizations that improve watershed management and restoration. Metropolitan also works with many watershed interests to protect water quality at the source, including the following initiatives:

Local Organizations

Integrated Regional Water Management

Metropolitan continues to participate in this multijurisdictional water planning effort, serving on the Greater Los Angeles County Region Leadership Committee as its surface water management area representative.

Southern California Water Committee Stormwater Task Force

Metropolitan is actively engaged in the development of a regional database of case studies to gain an understanding of project data, such as actual (versus planned) stormwater capture and costs.

The Los Angeles Basin Stormwater Conservation Study

The \$2.4 million study was a cooperative effort among the Los Angeles County Flood Control District, the U.S. Bureau of Reclamation and several local agencies, including Metropolitan. The basin study, completed in December 2015, identifies alternatives, conducts trade-off analyses, and develops recommendations for meeting future water demands in the watersheds.

Council for Watershed Health

Metropolitan has been partnering with the Council for Watershed Health since 2000 in various research studies, including the Water Augmentation Study, and educational outreach efforts to improve water supply reliability, water quality and promotion of water-use efficiency. Currently, the council has four programs: living laboratory, sustainable landscape resources, healthy streams, and watershed coordination and planning.

A Water Augmentation Study, a 15-year study evaluating the effects of urban runoff on groundwater quality, concluded this year. A February 2016 workshop celebrated the successes of the study and the accomplishments of the Council for Watershed Health.

Sacramento-San Joaquin Delta

California EcoRestore

Metropolitan participates in the California EcoRestore program, a comprehensive state planning process to restore critical Delta habitat. In fiscal year 2015/16, Metropolitan worked with the California Department of Water Resources and other water and wildlife agencies to conduct planning and permitting for the Tule Red Restoration Project in Suisun Marsh to restore tidal marsh wetlands. Construction of the Tule Red Restoration Project began in September 2016.

Municipal Water Quality Investigations Program

Metropolitan continues to support the Department of Water Resources' MWQI Program, which implements water quality monitoring and special studies in the Delta and its tributaries. In fiscal year 2015/16, this program operated five real-time water quality monitoring stations, completed seasonal water quality forecasts, conducted pre-habitat restoration baseline water quality monitoring, and continued the State Water Project limnology study.

Delta Nutrient Impact Studies

Metropolitan continues to work with state and federal water contractors to support studies and management actions addressing the impact of nutrients and other water quality stressors in the Delta watershed. Metropolitan participated in the Delta Regional Monitoring Program, and in the Central Valley and San Francisco Bay Regional, Water Quality Control Boards nutrient management programs.

Battle Creek Salmon and Steelhead Restoration Project

This federal project is one of the largest cold water fish restoration efforts in North America. Metropolitan supported and financially assisted this project, which will create almost 50 miles of winter-, spring- and late fall-run salmon and steelhead habitat in the Sacramento River watershed. Construction is anticipated to be completed by 2020.



Colorado River

The Lower Colorado River Multi-Species Conservation Program

The 50-year program was created to balance the use of the Colorado River water resources with the conservation of native species and their habitats. The program provides endangered species compliance within the Lower Colorado River floodplain, from the lower reaches of the Grand Canyon to the southern international boundary with Mexico. This includes Metropolitan's current and future water, power, and facilities operations along the Colorado River. Metropolitan is an active member of the Steering Committee and is the largest non-federal contributor.

Covered under the program are 26 federal or state listed, candidate and sensitive species and their associated habitats, ranging from aquatic and wetland habitats to riparian and upland areas. Implementation will help create more than 8,000 acres of new habitat and produce 660,000 razorback suckers and bonytail to augment the existing populations of these sensitive fish. The program's substantial research and monitoring component has resulted in significant advancements in species science and restoration technology. It is a prime example of successfully balancing species and natural community restoration goals with water and infrastructure needs for residents of California, Nevada and Arizona.

The Colorado River Basin Salinity Control Program

The Colorado River Basin Salinity Control Program is a unique cooperative watershed effort between several federal agencies and seven states designated to meet national, international and state water quality objectives. Since 1974 these entities have worked as partners to manage the Colorado river's salinity. The program reduces salinity by preventing salts from dissolving and mixing with the river's flow. Irrigation improvements (sprinklers, gated pipe, lined ditches) and vegetation management reduce the amount of water needed to transport salts. Point sources such as saline springs also are controlled. The federal government, basin states and Program participants spend close to \$35 million annually on salinity control programs. Control projects have reduced salinity concentrations of Colorado River water on average by more than 100 micrograms per liter, avoiding hundreds of millions of dollars in damages to crops and infrastructure. Metropolitan is an active member of the Colorado River Basin Salinity Control Forum and is the largest non-federal contributor.



South Hills at Diamond Valley Lake.



About This Report

Every year, Metropolitan reports its accomplishments in water conservation, recycling and groundwater recharge to the state Legislature. Achievements are chronicled and detailed in this report. To coincide with the preparation of the report, the MWD Act requires Metropolitan to “hold an annual public hearing... during which the district shall review its urban water management plan... for adequacy in achieving an increased emphasis on cost-effective conservation, recycling, and groundwater recharge.” While the Urban Water Management Plan is prepared and updated every five years according to state requirements (with the next update due in July 2021), Metropolitan hosts an annual December hearing to share progress on fiscal year plan objectives, and to receive public comments.

Metropolitan held a public hearing on December 12, 2016 to receive public and stakeholder input. Comments received at the hearing are on file at Metropolitan and are available upon request.

METROPOLITAN'S MEMBER AGENCIES



City of Anaheim



City of Beverly Hills



City of Burbank



City of Compton



City of Fullerton



City of Glendale



City of Long Beach



City of Los Angeles



City of Pasadena



City of San Fernando



City of San Marino



City of Santa Ana



City of Santa Monica



City of Torrance



Calleguas Municipal Water District



Central Basin Municipal Water District



Eastern Municipal Water District



Foothill Municipal Water District



Inland Empire Utilities Agency



Las Virgenes Municipal Water District



Municipal Water District of Orange County



San Diego County Water Authority



Three Valley Municipal Water District



Upper San Gabriel Valley Municipal Water District



West Basin Municipal Water District



Western Municipal



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