

THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA



**Annual Progress Report to the California State Legislature  
Achievements in Conservation, Recycling and Groundwater Recharge**

**February 2012**

*Pictured on the cover:*

*Left to right: High-efficiency clothes washers are among the devices eligible for rebates under the SoCal Water\$mart program; High school students participate in the annual Solar Cup Program which spans activities over seven months and teaches students about energy and water resources management; Metropolitan and its member agencies provide incentives to upgrade landscape with more efficient irrigation equipment like the multi-stream sprinkler head; Fallbrook Public Utility District Water Reclamation Project in San Diego County produces recycled water for irrigation of freeway greenbelts, golf courses, school grounds and nurseries; bewaterwise.com is an important tool for promoting conservation education and awareness, attracting nearly 400,000 visitors last fiscal year.*

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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.

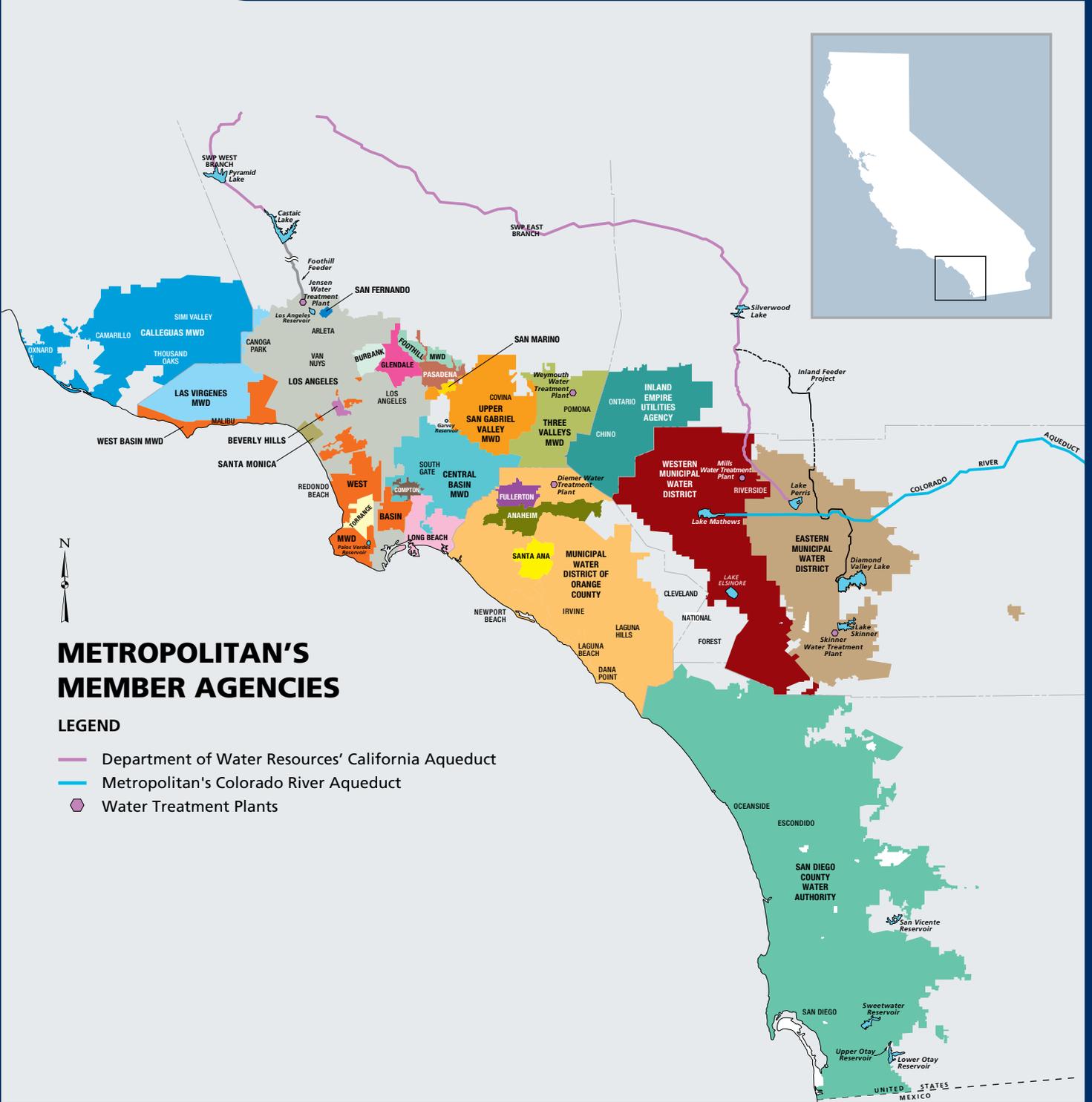
It is governed by a 37-member board of directors representing 26 member public agencies that purchase some or all of their water from Metropolitan and serve 19 million people across six Southern California counties.

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 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.

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# THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA



## METROPOLITAN'S MEMBER AGENCIES

### LEGEND

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

# Overview

Water conservation continues to be a key factor in water resource management in Southern California. Water resource managers balance the need to provide supply reliability with environmental protection. Planning strategies today are adaptive, recognizing the challenges that uncertainties of weather, environmental restrictions and economics can present. These strategies also recognize opportunities, such as emerging technologies and social and business trends. They are designed to be weather-proof; meaning that in drought or wet periods, plans for managing resources can be successful and provide long-term supply reliability.

Over the past two decades, the Metropolitan Water District of Southern California has built a regional water system based on solid responsible planning. Many of those plans intersect at different milestones and share the underlying goal of reliability. How to get to the end point -- a reliable water supply for a region that supports a trillion dollar economy and 19 million residents -- is based on a plan with many milestones. Some milestones are legislated -- like the 2009 mandate in California for retail water providers to lower per-capita residential water use 20 percent by 2020 (known as 20 X 2020) and the state's Recycled Water Policy. Others reflect regional and local opportunities, like targets in Metropolitan's 2010 Integrated Water Resources Plan Update (IRP) that call for water-use efficiency to provide about one-third of the region's water supply by 2035.

For Metropolitan, water-use efficiency is anchored by the recently adopted (August 2011) Long-Term Conservation Plan (LTCP) and the Local Resources Program (LRP). The LTCP sets goals to help retailers achieve water conservation savings, and at the same time, support technology innovation and transform public perception about the value of water. This plan is market oriented -- with both incentive and non-incentive drivers to ultimately change how water is used and perceived by Southern California consumers. Additionally, the LRP encourages the development and increased use of recycled water through incentives.

The LTCP was developed in collaboration with member agencies, retailers and other stakeholders and embraces both traditional and innovative approaches to conservation. The goals of the LTCP are to 1) achieve the conservation target in the 2010 IRP Update 2) pursue innovation that will advance water use efficiency and conservation and 3) transform the public's perception of the value of water within the region.

Working on parallel paths, the LTCP seeks to leverage the success of traditional conservation programs by collaborating with trade associations, public interest groups, environmental organizations, customers and others to change consumer values and generate preferences for water-efficient technologies.

Outdoor water use is a key focus as watering landscapes and gardens accounts for about half of household water use in Metropolitan's service area. Metropolitan will work with water agencies, landscape equipment manufacturers and other stakeholders to make proper irrigation control more effective and easier to understand. A similar effort will be made to reach out to the region's businesses, industries and agriculture to focus on process improvements that can save both money and water. The final focus will be on residential water use, where Metropolitan will work with water agencies and energy utilities to better promote the choices that consumers have for water-efficient products like faucets, shower heads and high-efficiency clothes washers. These programs are promoted through the conservation-focused Web site [bewaterwise.com](http://bewaterwise.com), which has seen an average 400,000 visitors annually since its launch in 2003.

This past year of increased water availability followed four years of dramatically reduced supplies. In April 2011, the official end to the drought was announced by Gov. Jerry Brown. Metropolitan's Board of Directors followed suit and restored imported water deliveries to the district's 26 member public agencies without risk of allocation penalties for the first time in two years.

Metropolitan's achievements in water-use efficiency programs have defined the future supply outlook according to plan. Incentive programs aimed at residential, commercial and industrial water users make a key contribution to the region's conservation achievements. The rebate program is credited with water savings of 156,000 acre-feet annually from a cumulative investment of \$309 million. Funding provided by Metropolitan to member and retail water agencies for locally-administered conservation programs included rebates for turf removal projects, toilet distribution and replacement programs, high-efficiency clothes washer rebate programs and residential water audits.

Training classes have been developed under the California Friendly® umbrella and include landscape and turf courses for the general public, facility managers, landscape professionals and gardeners. Courses are available online in both English and Spanish.

Fiscal year 2010/11 saw the launch of new initiatives. Metropolitan and its member agencies initiated a program called, "Proper Irrigation Control" as part of the LTCP to provide resources to educate the public on landscape water-use efficiency. With a grant from the state Department of Water Resources, Metropolitan provided financial incentives to customers to replace their lawns with more water-efficient plants. A newly launched agricultural conservation program offered financial incentives to growers for irrigation system efficiency improvements.

Metropolitan encourages research and development of innovative ways to conserve water in the future. The Innovative Conservation Program provided funding to individuals and organizations to test new technologies and devices. In fiscal year 2010/11, four of the five ICP projects completed final reports documenting water-saving opportunities.

Supporting the development of local resources, Metropolitan's LRP offers financial incentives designed to expand water recycling and groundwater recovery. In fiscal year 2010/11, Metropolitan funding supported the production of 162,000 acre-feet of recycled water for non-potable uses and about 43,000 acre-feet of groundwater recovered for municipal use. A newly-established task force collaborated with member agencies to review the LRP and identify alternative financial mechanisms to support development of local resources with a cost-effective, sustainable approach.

Because of improved water conditions this past year, Metropolitan was able to begin refilling groundwater and surface storage reservoirs that had been tapped during drought years 2007 – 2010. Metropolitan also stored more than 20,000 acre-feet in the dry-year conjunctive use program within the service area to maintain reliability during dry, drought and emergency conditions.

Metropolitan is involved in several statewide issues that encompass watershed management and environmental restoration. Efforts range from short-term emergency response to long-term planning. Many of these activities come into play in the Sacramento-San Joaquin Delta – the Northern California hub for the state’s water system. About 30 percent of Southern California’s water moves through the Delta, the West Coast’s largest natural estuary. A healthy Delta watershed supports supply reliability for the region.

The Delta’s environmental decline has led to ongoing restrictions in water deliveries. It has prompted renewed commitment by stakeholders to find a solution that links conveyance system improvements with ecosystem restoration. This is the goal of the Bay Delta Conservation Plan (BDCP) being crafted by state and federal wildlife agencies, water districts, environmental groups, local Delta interests and other stakeholders. This year saw the release of a working draft BDCP that outlines a three-part approach to ecosystem restoration: a new water conveyance infrastructure, habitat restoration and measures to offset non-water project related stressors that negatively affect sensitive species. Metropolitan also participated on other watershed work groups and provided funding towards restoration projects that include the largest cold-water restoration effort in North America. The Battle Creek Salmon and Steelhead Restoration Project will open almost 50 miles of habitat in the Sacramento River watershed.

With a legacy of planning and a history of engineering acumen and excellence, Metropolitan has been able to adapt to changing conditions and maintain a reliable water supply for Southern California. Metropolitan continues to explore innovative programs and embrace new technology that increases water-use efficiency in the service area.

## **Reader's Guide to the Achievements Scorecard**

### **Conservation**

Metropolitan helps the region reduce water consumption through its Conservation Credits Program. Established in 1991, the program provides rebates for the installation or retrofit of water-efficient devices.

### **Recycled Water**

Used municipal water is recycled and treated to a quality level allowed for specific uses such as landscape irrigation, groundwater recharge and seawater intrusion barriers. Metropolitan provides financial assistance to produce recycled water through its Local Resources Program, which began in 1982.

### **Groundwater Recovery**

Degraded groundwater is recovered for potable use through treatment techniques that reduce high salt levels or other contaminant levels. Financial assistance for groundwater recovery has been provided since 1991 through Metropolitan's Local Resources Program.

### **Conjunctive Use Program**

Metropolitan works in partnership with its member agencies and groundwater basin managers to store surplus imported water in local aquifers for future withdrawal.

### **Water Rate Discount For Groundwater Replenishment**

When there are surplus water supplies, Metropolitan offers its member agencies water at a discounted rate to encourage groundwater storage.

<b>Achievements Scorecard</b>	
<b>Metropolitan-Assisted Programs</b>	
<b>Conservation<sup>1</sup></b>	
FY 2010/11 New Water Saved From Active Conservation Programs <sup>2</sup>	13,000 acre-feet
FY 2010/11 Water Saved From New & Existing Active Conservation Programs <sup>2</sup>	156,000 acre-feet
Cumulative Water Saved From Active Conservation Programs <sup>3</sup>	1,569,000 acre-feet
FY 2010/11 Metropolitan Active Conservation Investment <sup>4</sup>	\$16 million
FY 2010/11 Member Agency Investment <sup>5</sup>	\$15 million
Cumulative Active Conservation Investment (excluding funding by member agencies)	\$309 million
Total FY 2010/11 Conservation Investment <sup>6</sup>	\$16.1 million
<b>Recycled Water<sup>7</sup></b>	
FY 2010/11 Production	162,000 acre-feet
FY 2010/11 Investment	\$26.3 million
Cumulative Production	1,492,000 acre-feet
Cumulative Investment	\$269.7 million
<b>Groundwater Recovery<sup>7</sup></b>	
FY 2010/11 Production	43,000 acre-feet
FY 2010/11 Investment	\$7.7 million
Cumulative Production	550,000 acre-feet
Cumulative Investment	\$102.7 million
<b>Conjunctive Use Program<sup>8</sup></b>	
Metropolitan Cumulative Investment	\$26.5 million
Proposition 13 Grant Funds Administered by Metropolitan	\$45.0 million
Water Stored Since Program Inception through September 2011	235,000 acre-feet
Water Extracted Since Program Inception through September 2011 <sup>8</sup>	206,000 acre-feet
<b>Water Rate Discount For Groundwater Replenishment<sup>9</sup></b>	
Cumulative Investment through September 2011	\$345 million
Cumulative Replenishment Water Delivery through September 2011	3.1 million acre-feet

**Footnotes:**

1. Conservation is water saved directly as a result of incentives from Metropolitan's Conservation Credits Programs and other water agencies. It includes device retrofits, process improvements, landscape efficiency improvements and other efficiency measures utilized in commercial, industrial and residential sectors. Additional water is conserved as a result of plumbing codes and other laws governing appliances and other products' efficiency standards.
2. This includes water savings initially achieved through Metropolitan's conservation programs and subsequently maintained through plumbing codes and includes savings from devices installed through fiscal year 2010/11. It also includes savings from member-agency funded programs administered through Metropolitan's region-wide residential and commercial programs.
3. This is cumulative water savings since 1991 and includes water savings initially achieved through Metropolitan's active conservation programs 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 Programs, member agencies and retailers also implemented local water conservation programs within their respective service areas. Member agency investment figures include rebate funding provided by member agencies beyond rebates already provided by Metropolitan's Conservation Credits Programs.
6. Total conservation investment includes the Conservation Credits Programs along with education and advertising campaigns to promote conservation.
7. Figures reflect actual and estimated deliveries for all Metropolitan-assisted projects and payments reported through June 2011; cumulative production and investment reflect accounting reconciliation as data become available.
8. 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. Metropolitan and Calleguas Municipal Water District mutually terminated an agreement to store water in the Las Posas groundwater basin. The associated project cost of \$28.2 million was refunded to Metropolitan, reducing the cumulative investment from \$54.7 million to \$26.5 million. Water extracted since program inception includes losses.
9. Figure is cumulative since 1990.

# Conservation

Metropolitan and its member agencies have long been leaders in water conservation. Water-use efficiency is encouraged with financial incentives such as rebates and tiered pricing structure, outreach and education programs, and support for new plumbing and compliance codes that facilitate water savings. In fiscal year 2010/11, savings from Metropolitan's active conservation programs was 156,000 acre-feet. In addition, the region saved about 760,000 acre-feet.

## Long Term Conservation Plan

In 2009, the California Legislature mandated retail water providers achieve a 20 percent per-capita reduction in water use by the year 2020. In 2011, Metropolitan's board adopted a Long-Term Conservation Plan (LTCP), developed in collaboration with its member agencies, retailers, and other stakeholders. The plan provides a framework of goals and strategies to reduce per capita water use through conservation and water use efficiency. The goals of the LTCP are: 1) achieve the conservation target in the 2010 IRP Update 2) pursue innovation that will advance water use efficiency and conservation and 3) transform the public's perception of the value of water within the region.

Implementation of the LTCP will occur through parallel programs that seek lasting changes in consumer values, behaviors, and preferences for water-efficient technologies, processes, services, and design approaches. The traditional program of incentives, education and broad outreach provides a foundation of water savings and information to help assess opportunities for strategically focused efforts. The strategic focus program depends on new alliances, collaboration, outreach and incentives to meet benchmarks that indicate earlier and/or broader adoption of a water-saving technology or service by consumers. Metropolitan will review progress of the LTCP periodically and adjust programs based on levels of success, cost and opportunity.

For its inaugural year, the strategic focus is proper irrigation control. Metropolitan held several work group meetings with its member and retail agencies that led to the development of an online toolbox. This brings resources to water agencies and other interested groups for educating the public on landscape water use efficiency. Metropolitan also met with irrigation manufacturers to encourage emphasis on proper irrigation control on their Web sites and in written materials. A number of Metropolitan's member and retail agencies have advertised in local newspapers encouraging residents to "Take Control of Your Controller."

## Fiscal Year 2010/11 Program Highlights

- Metropolitan and its member agencies issued rebates valued at \$16 million for about 190,000 devices.
- Metropolitan and its member agencies implemented a strategic focus program called "Proper Irrigation Control" to provide resources on landscape water use efficiency.
- Metropolitan, with a grant from the state Department of Water Resources, initiated a turf removal program that pays incentives to customers who replace their lawns with more water efficient plants.
- Metropolitan created an agricultural conservation program that provides financial incentives to growers for irrigation system efficiency improvements.

## Conservation Programs

Metropolitan's conservation programs focus on two main areas: residential and commercial water use.

### ***Residential Conservation Programs***

Metropolitan's Residential Conservation Programs consist of two targeted efforts: SoCal Water\$mart for residential customers and programs implemented by member agencies. In fiscal year 2010/11, the Residential Conservation Programs saved 3,800 acre-feet.

#### **SoCal Water\$mart**

Launched in 2008, the region-wide residential program SoCal Water\$mart provides rebates to offset purchases of water-efficient devices. In fiscal year 2010/11, SoCal Water\$mart issued about 190,000 rebates with Metropolitan funding of about \$6.3 million.



#### **Member Agency Residential Programs**

In addition to SoCal Water\$mart, Metropolitan also provides funding to member agencies for locally-administered water conservation programs. Member agencies receive Metropolitan incentives for qualified retrofits and water-saving activities. Qualifying projects have included turf removal projects, toilet distribution and replacement programs, clothes washer direct-installation programs, and residential water audits.

#### **Examples of water-saving devices that contribute to conservation:**

##### ***High-Efficiency Clothes Washers***

High-efficiency clothes washers (HECW) continue to be in demand in the marketplace, supported by Metropolitan's rebate program. Metropolitan's program eligibility requirement is currently set at water factor 4.0, which saves more than 10,000 gallons per year per washer. The water factor is the measure for the amount of water used to wash a standard load of laundry. HECW rebates in fiscal year 2010/11 saved 1,860 acre-feet per year. When available, Metropolitan has supplemented its HECW rebate using state or federal grants.



*Rebates for high-efficiency clothes washers accounted for water savings of 1,860 acre-feet in fiscal year 2010/11.*

***Turf Removal***

Aided by a Proposition 50 grant from the state Department of Water Resources, Metropolitan implemented a turf removal incentive program that provides customers rebates to remove their lawn and replace it with lower water-use plants. In its first full year of operation, more than 2.5 million square-feet of turf were replaced, saving approximately 75 acre-feet of water.

***High-Efficiency Toilets***

Metropolitan uses the federal Environmental Protection Agency's WaterSense list of high-efficiency toilet (HET) models to qualify for rebates. HETs use 20 percent less water than the current low-flush toilets. High-efficiency toilet rebates in fiscal year 2010/11 saved 1,040 acre-feet per year.

***Irrigation Evaluations and Residential Surveys***

Metropolitan provides funding to member agencies that offer residential irrigation evaluations and indoor water surveys. Irrigation evaluations produce a recommended watering schedule along with suggestions for system efficiency improvements. Indoor residential surveys provide customers with information on how to identify leaks as well as suggestions for water-saving hardware for the home. In fiscal year 2010/11, these programs saved 140 acre-feet per year.

***Rotating Nozzles for Sprinklers***

Pop-up spray heads with multi-stream, multi-trajectory rotating nozzles increase watering efficiency. Metropolitan provides incentives to replace the nozzles. In fiscal year 2010/11 nozzles saved 560 acre-feet per year.

***Weather-Based Irrigation Controllers***

Weather-based irrigation controllers (WBIC) adjust irrigation schedules automatically based on a number of factors including rain, temperature, plant type, sunlight and soil type. Metropolitan provides incentives to replace traditional manual controllers with WBICs. WBICs installed in fiscal year 2010/11 saved 125 acre-feet.



*Low water use gardens, like the one pictured here at Metropolitan headquarters, are being installed in lieu of turf areas through the support of Metropolitan's Turf Removal Program.*

## ***Commercial Conservation Programs***

Metropolitan's commercial programs provide rebates to businesses and institutions for water-saving device replacements throughout Southern California. This results in annual water savings of about 9,100 acre-feet. In fiscal year 2010/11, the commercial program was comprised of the Save Water Save A Buck Program, member agency commercial programs, Water Savings Performance Program and the Agricultural Conservation Program.



### **Save Water, Save A Buck**

The majority of commercial conservation activity comes from Metropolitan's regional Save Water Save A Buck Program (Save A Buck). The Save A Buck program provides rebates for water-saving plumbing fixtures, landscaping equipment, food-service equipment, cleaning equipment, HVAC (heating, ventilating, air conditioning) and medical equipment. This program also targets multi-family dwellings for retrofits using high-efficiency washers and toilets, and rotating nozzles for pop-up spray heads. During fiscal year 2010/11, Save A Buck provided about 2,700 rebates for more than 66,000 device retrofits.

### **Member Agency Commercial Programs**

Member and retail water agencies also implement water conservation programs for commercial sectors using Metropolitan incentives. Projects target specific local businesses, with many programs also receiving assistance from state or federal grant programs. Metropolitan incentives are used as the basis for meeting cost-share requirements.

### **Examples of water-saving devices used in the commercial sector:**

Following is a list of current and past water-saving fixtures and equipment that contributed to this year's conservation savings with rebates provided to businesses and institutions under Metropolitan's Commercial Programs:

- Connectionless Food Steamer
- Cooling Tower Conductivity Meter
- Dry Vacuum Pump
- High-Efficiency Toilet
- High-Efficiency Urinal
- Large Rotors - High Efficiency Nozzle
- Multi-Stream Rotating Nozzles
- pH Cooling Tower Controller
- Synthetic Turf
- Turf Removal
- Ultra-Low-Flush Urinals
- Water Broom
- Weather-Based Irrigation Controller
- Zero Water Urinal

### **Water Savings Performance Program**

A component of the commercial program, the Water Savings Performance Program, provided financial incentives for documented water savings linked to landscape irrigation and industrial process improvements. This program allowed customers to receive incentives for five years of water savings. Projects with existing contracts continue to produce savings.

### **Agricultural Conservation Program**

The Agricultural Conservation Program was created to provide financial incentives to growers who perform physical improvements to their overall irrigation systems to increase efficiency. An initial site audit is required to determine the baseline efficiency of the irrigation system and the improvements needed to increase system efficiency. Once the grower makes the physical improvements, a second audit is conducted to determine the improved irrigation efficiency. Incentives are based on the calculated water savings. For fiscal year 2010/11, 10 projects were approved with completion expected in early 2011/12.

### ***Research and Development***

Metropolitan encourages research and development of new and creative ways to conserve water. The Innovative Conservation Program (ICP) provides funding to individuals and organizations to test new technologies and devices. Four of the five ICP projects selected in fiscal year 2009/10 were completed with final reports documenting the water savings opportunities of new devices and technologies in fiscal year 2010/11. In fiscal year 2011/12, eight new projects were selected for funding for a total of nine ICP projects in progress.



*(Pictured left) Discharged wastewater from industrial cooling towers is tested on California Friendly plants for irrigation.  
(Pictured right) Sprinklers with pressure reducers minimize runoff on greenbelt medians.*

## **Communications and Outreach**

Metropolitan sponsored conservation and Delta-related educational outreach efforts and programs throughout its service area during fiscal year 2010/11. Online and social media included Google search advertising focused on water conservation.

Metropolitan's bewaterwise.com Web site continued to be an important tool in educating the public, attracting nearly 400,000 unique visitors from July 1, 2010 through June 30, 2011. Metropolitan also added a Spanish-language version of the site.

### ***Community Events***

Metropolitan continues to maintain a strong presence in community water resource education and conservation awareness activities and events. Metropolitan co-sponsored numerous events throughout its six-county service area.

### ***Education Programs***

During fiscal year 2010/11, Metropolitan and its member agencies completed a revision of the school curriculum supplement titled, "Conservation Connection: Water and Energy in Southern California." This curriculum focuses on water and energy use in Southern California. It covers programs, projects and challenges in providing reliable supplies of drinking water and usable energy, including drought cycles, environmental considerations, population growth and costs.

Metropolitan and its member agencies reinforced the conservation message through the distribution of educational materials and the organization of outreach activities and events for more than 30,000 K-12 students and more than 200 new program teachers throughout the service area. Key opportunities included: the ninth annual Solar Cup® boat race with 40 high school teams; the 17th year of Metropolitan's Diamond Valley Lake Education Program; and the 2011 "Water is Life" student art calendar program. Additionally, Metropolitan's Education Programs Web site drew nearly 8,000 unique visitors over the course of the fiscal year.

### ***California Friendly® Landscape Irrigation Efficiency Training***

Metropolitan's California Friendly Landscape Training program provided classroom and online water-wise landscaping classes for more than 1,400 professional landscapers and residential homeowners in 2011. The classroom and online training was conducted in English and Spanish. Since the program's inception in 1994, more than 55,000 people have participated in the classes.

### ***Community Partnering Program***

The Community Partnering Program continues to support water-related and educational community projects, programs and events. CPP funding supports Metropolitan's overall mission and results in expanding the support of and collaboration with nonprofit community organizations, public agencies, professional associations and educational institutions. These co-sponsorships emphasize water conservation, watershed education, and other programs that support Metropolitan's overall water conservation efforts.

# Local Resources

Water recycling and groundwater recovery and storage are important assets in the region's diverse local resource portfolio and help bring greater water supply reliability to Southern California. These resources help offset imported water supplies. Local water agencies have largely led the development of water recycling and groundwater recovery projects with many new projects incentivized by Metropolitan's Local Resources Program (LRP).

## Water Recycling and Groundwater Recovery

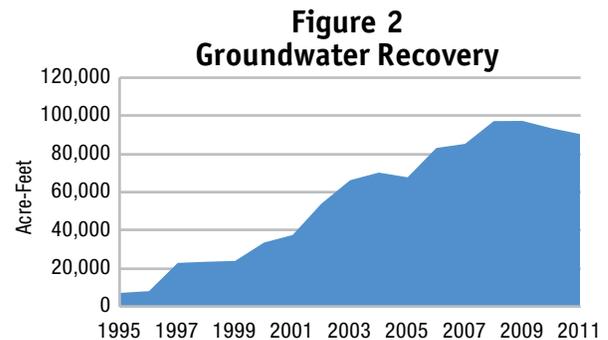
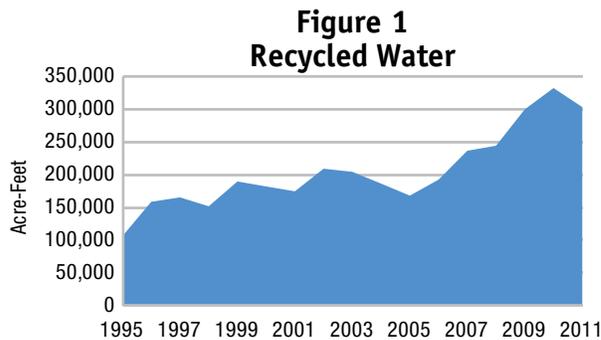
Metropolitan's LRP is a performance-based incentive program designed to expand water recycling and the recovery of degraded groundwater. Metropolitan funding supported the production of about 162,000 acre-feet of recycled water for non-potable uses and about 43,000 acre-feet of recovered groundwater for municipal use in fiscal year 2010/11. Additional recycled and recovered water was produced without Metropolitan funding. Figures 1 and 2 (opposite page) represent total recycled water and groundwater recovery production in Metropolitan's service area, including local agency funded projects.

## Fiscal Year 2010/11 LRP Highlights

- Metropolitan established the Local Resources Development Strategy Task Force in collaboration with member agencies to review the LRP and identify alternative mechanisms to support development of local resources consistent with the updated Integrated Water Resources Plan.
- Western Municipal Water District and Inland Empire Utilities Agency's Chino Desalter III Project began treating degraded groundwater and will produce up to 10,600 acre-feet/year of recycled water.
- Irvine Ranch Water District's Wells 21 and 22 Project began operation this year and will produce up to 6,400 acre-feet per year of recovered groundwater.
- Cucamonga Water District, a retail agency of the Inland Empire Utilities Agency, began operation of the Northeast Recycled Water Project that will produce up to 33,000 acre-feet of recycled water for recharging the Chino Groundwater Basin.
- Elsinore Valley Municipal Water District, a retail agency of Western Municipal Water District, launched its Recycled Water Program and will produce up to 300 acre-feet of recycled water per year.
- Los Angeles Department of Water and Power's Van Nuys Area Recycling Project will produce up to 120 acre-feet of recycled water per year.



*Whittier Narrows Golf Course uses recycled water for irrigation.*



## Groundwater Management

### *Conjunctive Use*

Metropolitan's dry-year conjunctive use program stores surplus imported supplies within the service area to maintain reliability during dry, drought and emergency conditions. In fiscal year 2010/11, Metropolitan and Calleguas Municipal Water District mutually terminated an agreement to store water in the Las Posas groundwater basin. The associated project cost of \$28.2 million was refunded to Metropolitan, reducing the cumulative investment from \$54.7 million to \$26.5 million. Currently, Metropolitan has nine storage projects that provide about 212,000 acre-feet of storage capacity. Metropolitan can withdraw about 70,000 acre-feet per year during shortage years. Since the program inception in 2008, Metropolitan stored 235,000 acre-feet. During the recent drought period, Metropolitan extracted 206,000 acre-feet to meet demands. With improved water supply conditions this past fiscal year, Metropolitan began to refill these accounts. As of July 1, 2011, 20,000 acre-feet have been stored.

### *Groundwater Recharge Initiatives*

Metropolitan supported the Southern California Water Committee's task force to address issues relating to increased stormwater capture for water supply. The task force has coordinated information and perspectives among stormwater agencies, water supply providers, development interests and environmentalists. Metropolitan also provided support for development of salt and nutrient management plans in groundwater basins in its service area to increase potential for recharge of recycled water. Metropolitan participates in a joint study with the Sanitation Districts of Los Angeles County to evaluate the potential for large-scale indirect potable reuse of recycled water involving advanced treatment and groundwater storage prior to recapture and reuse.

# Watershed Initiatives

Metropolitan is active on planning boards and organizations formed to improve watershed management and restoration. Metropolitan works with stakeholders in the Sacramento-San Joaquin Delta watershed and participates in the Greater Los Angeles County Integrated Regional Water Management Plan and the Council for Watershed Health.

## Integrated Regional Water Management Planning

Integrated Regional Water Management (IRWM) is a state initiative that encourages collaboration among multiple agencies, stakeholders, individuals and groups within a region to manage all aspects of water resources. IRWM groups typically consist of public agencies with water or wastewater authorities, cities, counties, special districts and non-governmental organizations that address a broad range of issues including growing water demands, water supply reliability, water quality, stormwater management, open space and habitat, and financing of projects. Currently, there are eight IRWM groups covering Metropolitan's service area and all the member agencies participate in one or more IRWM groups. Metropolitan continues to participate in the Greater Los Angeles County Region Leadership Committee as the surface water management area representative.

In November 2006, California voters passed Proposition 84, the Safe Drinking Water, Water Quality, and Supply, Flood Control, River and Coastal Protection Bond Act, which provides \$1 billion for Integrated Regional Water Management Planning and Implementation. The state Department of Water Resources has initiated the first cycle of the grant program under Proposition 84. The IRWM groups are required to prepare or update their IRWM Plans in order to participate in Proposition 84 implementation grants. Metropolitan will be providing information and technical assistance to member agencies to update the plans.

## Council for Watershed Health (formerly the Los Angeles and San Gabriel Rivers Watershed Council) Water Augmentation Project

Metropolitan was an active participant in the Water Augmentation Project, a 10-year research study to investigate the benefits, costs and risks of capturing stormwater runoff since 2000. Metropolitan continues to participate in follow-up technical studies and projects identified in the Water Augmentation Study. Projects include extension of the Elmer Street neighborhood (San Fernando Valley) retrofit to include an alley downstream of the completed project; specific groundwater basin studies to quantify the groundwater yield and benefit to surface water quality of capturing runoff; and identifying additional pilot studies.

## Sacramento-San Joaquin Delta Watershed

The Sacramento-San Joaquin Delta watershed is an important source of water supply delivered to Southern California through the State Water Project. A healthy Delta watershed ensures regional water supply reliability. Metropolitan continues to work with agencies and stakeholders throughout the Delta watershed to conduct studies and develop policies and programs to restore the ecosystem and protect Delta water quality for drinking water uses and for aquatic wildlife.

Metropolitan participates in the Bay Delta Conservation Plan (BDCP) process, which is a collaborative effort to restore the Delta ecosystem and improve conveyance. The main goals of the BDCP are to provide for both endangered species and habitat protection as well as improved reliability of water supplies. Metropolitan participates on the BDCP Steering Committee with state and federal agencies, water agencies, and environmental and conservation organizations. One of the key BDCP accomplishments in 2011 was the release of the working draft BDCP that outlines a three-part approach to ecosystem restoration: new water conveyance infrastructure, habitat restoration, and measures to offset non-water project related stressors that negatively affect sensitive species.

Metropolitan continued to support the state Department of Water Resources' Municipal Water Quality Investigations (MWQI) Program, which implements water quality monitoring and special studies in the Delta and its tributaries to develop a better understanding of the sources and effects of drinking water quality constituents of concern. This year, the MWQI Program continued important activities including the installation of additional water quality monitoring stations and development of data for watershed modeling studies.

Metropolitan continued to work with several agencies and stakeholder groups to develop a drinking water policy for surface waters in the Delta watershed. This program is a multi-year effort. In July 2010, the Central Valley Regional Water Quality Control Board adopted a resolution outlining a schedule for completing the policy. In spring 2011, technical studies to support the drinking water policy development, including evaluation of potential future water quality scenarios, were completed. By July 2013, the Regional Board is scheduled to consider the final drinking water policy for adoption. The policy will provide an improved regulatory framework for drinking water quality protection activities in the Delta watershed.

Metropolitan also continued to work with the state and federal water contractors to support studies and regulatory decisions addressing the impacts of nutrients and ammonia in the Delta and the impact of nutrients on the Delta food web.

In addition to involvement in research efforts and studies, Metropolitan supported and financially assisted the Battle Creek Salmon and Steelhead Restoration Project, which began in fall 2010. The U.S. Bureau of Reclamation project is one of the largest cold-water restoration efforts in North America. It is being supported with federal, state and private funding. The project will open 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 2015.



*The Sacramento-San Joaquin Delta is the hub of the state's water system and the West Coast's largest estuary.*

# Ethics Office

The Ethics Office works collaboratively with Metropolitan's Board of Directors, general manager, general counsel and general auditor to promote the agency's core values: integrity, stewardship, diversity, leadership, open communication and teamwork.

In addition, the Ethics Office enforces ethics-related laws and policies; educates directors, officers, and employees about what is expected of them in terms of ethical behavior and compliance; and works with the Board of Directors and other departments to enhance Metropolitan's ethical culture.

In fiscal year 2010/11, Metropolitan's Ethics Office accomplished the following:

- Responded to 78 matters brought to the attention of the office. Fifty-nine percent were queries involving research and 41 percent were expressions of concern. Callers included employees (72%), members of the public (19%), directors (5%), and unknown classification (4%);
- Presented the second and final AB 1234 ethics training workshop of the year for Metropolitan directors and officers;
- Created a list of all members of the Board of Directors and the Executive Team who represent Metropolitan on external boards, collaborative initiatives, or civic groups;
- Reviewed policies with the Legal Department and the General Manager's office for possible revisions;
- Provided ethics education at field locations outside of the Los Angeles headquarters for employees and managers;
- Distributed monthly ethics posters to raise awareness;
- Sent Operating Policy H-03 Ethics Policy to all employees for annual review;
- Provided advice and support to directors at committee and general board meetings, and privately as requested; provided advice to officers and employees as requested; and
- Provided ethics orientation to all new employees.

# Excerpts From Public Hearing Comments

In accordance with section 130.5 of the MWD Act, Metropolitan held a public hearing on December 12, 2011 to receive comment on the draft annual report on achievements in conservation, recycling and groundwater recharge for fiscal year 2010/11. The following summaries are from comments received and submitted at the public hearing. Water use efficiency programs for conservation and recycled water were the focus of reviewer comments and will be considered as Metropolitan develops the framework for regional long-term conservation and recycled water programs consistent with the 2010 Regional Urban Water Management Plan and for consideration by Metropolitan's Board of Directors.

## **Chris Brown, California Urban Water Conservation Council**

Again, Metropolitan shows itself as a leader in water conservation in the state and in the nation with this plan. The 20x2020 legislation (SBX7-7) allowed agencies to choose different options for reducing water use. Agencies with historically progressive and successful water conservation could have chosen an option with a target less than 20 percent. In your planning efforts, you have chosen to go for a full 20 percent reduction in per capita water use within your service area. That is very important for the state and the region. Without Metropolitan's leadership in this area, it would be very difficult to reach the 20 x 2020 goal. I also like in this particular plan that you support research and innovation.

You have a renewed emphasis on landscape with your irrigation controller program. Landscape water conservation has been a real challenge. You have to have the right type of plants for the climate we live in, and you also have to maintain that equipment.

And with that, my final comment has to do with your emphasis on social marketing and the public perception of the value of water. Again I think you hit it right on the mark. Where there is true leadership and big success in water conservation, it's because the public understands the importance of water. They know where it comes from, what it cost to get it to them, and the need to have robust, safe drinking water systems. I want to encourage and thank you all for your leadership in the California Urban Water Conservation Council. I think for the state as a whole to succeed, people from the Central Valley to the coast, not just here in the Southland, have to do the things that are in this plan.

## **Edward Osann, Natural Resources Defense Council**

We really appreciate the support of Metropolitan to continue budgeting for conservation program activities during challenging fiscal times. With the 20x2020 goal that has been set in state statute and by Metropolitan itself in the IRP Update, we really are in this for the long haul. The revised Long Term Conservation Plan that was approved by your Board in August reaffirmed the commitment to use Metropolitan's avoided costs as the benchmark or upper bound for conservation, for payment of conservation program savings. However, the current maximum payment of \$195 per acre-foot has not been changed in many years. We recommend that the

Board consider changes to this approach. The programs should provide stability from year to year, while taking into account the general trends in Metropolitan's cost experience. We suggest using 3-year or 5-year rolling averages of the variable costs associated with Metropolitan's marginal purchases of water. This would include water purchases and transfers adjusted for water losses in transit, pumping costs associated with the marginal purchase of water, and the variable treatment costs associated with them. We encourage the board and staff to develop such a methodology in time for the annual consideration of conservation programs and program updates this coming April or May.

### **Shivaji Deshmukh, West Basin Municipal Water District**

West Basin MWD has participated in Metropolitan's Local Resources Program since 1994 when the Edward C. Little Water Recycling Facility was constructed. Since then, we have produced over 390,000 acre-feet of recycled water to serve West Basin MWD's service area, as well as the cities of Torrance and Los Angeles. We currently have more than 380 sites connected to recycled water that receive recycled water supplies. All of the oil refiners within our service area also use this recycled water for their cooling tower and boiler processes needs. We are also finalizing an agreement with the Los Angeles Department of Water and Power to serve recycled water from our El Segundo facility to the Harbor area. None of these projects would be financially possible without the Metropolitan LRP incentive. Producing recycled water requires a significant capital and operational investment, and these costs continue to rise as chemical, power and replacement costs continue to increase.

With regard to conservation, West Basin MWD is very proud of its successful conservation program, and it does rely heavily on outside funding sources. For every \$1 that West Basin invests in its public conservation program, the public receives \$7 worth of programs which is made possible through outside funding sources, including Metropolitan's rebates and member agency allocation. Today, West Basin MWD has distributed over 20,000 devices and has conserved over 15,000 acre-feet per year from active and passive conservation programs.

Finally, in the area of groundwater recharge, West Basin MWD, in partnership with the L.A. County Flood Control District and the Water Replenishment District of Southern California, protects and replenishes the local groundwater aquifer using a blend of purified recycled water as well as imported water from Metropolitan. In our effort to reduce dependence on imported water supply, the amount of injection of high quality recycled water into the barrier has steadily increased from 50 percent to 75 percent.

West Basin MWD finds Metropolitan's efforts in water recycling and conservation extremely successful in helping its member agencies to achieve greater reliance on local water supplies. Further, the involvement in California's legislative and policy matters have brought about positive changes to public perception regarding water use efficiency and water recycling, and ultimately will have lasting statewide impacts.

### **Penny Falcon, Los Angeles Department of Water and Power**

The Los Angeles Department of Water and Power supports Metropolitan's regional water conservation programs and congratulates Metropolitan on the water use efficiency accomplishments as outlined in your current SB60 report. Water conservation is an important part of the region's water supply portfolio, and your regional conservation program provides real water savings that would otherwise not be achieved. In these next years,

Metropolitan's conservation leadership will play a key role in achieving the necessary real water savings to support our region's water supply reliability goals as stated in your current Integrated Resources Plan. Your regional water conservation program is a vital tool for meeting these goals. LADWP supports maintaining existing funding levels of the current conservation program and will support expansion of these funding levels when economic conditions improve.

## **Dennis Cushman, San Diego County Water Authority**

SB 60 of 1999 requires that MWD hold a public hearing annually to review its Urban Water Management Plan. Today's public hearing was not noticed to review MWD's Urban Water Management Plan, but my testimony on MWD's draft SB 60 report to the legislature is offered on the context of that.

First, the legislative intent of SB 60 was for MWD to report annually on Southern California's progress in developing local water resources and increasing conservation to reduce dependence upon imported water supplies and increasing conservation and reduce dependence on the Sacramento-San Joaquin Bay Delta. However, the draft report before you today does not provide a comprehensive review of Southern California's progress. Instead, it limits the report to only those local supplies and conservation programs that Metropolitan subsidizes through financial payments and subsidies. MWD leaves out any mention of Southern California's local supply development and conservation that does not depend upon or receive MWD's subsidies. Let's focus first on MWD's Urban Water Management Plan as compared to its 2005 and 2000 plans. MWD's firm water sales projections are far lower than its earlier plans: 18 percent lower in 2020 and 22 percent lower in 2030. There has been a seismic shift in Southern California that will have substantial implications for MWD's water supply planning. Despite concerns expressed by the Water Authority more than a year ago, this board last November adopted and approved MWD's Urban Water Management Plan many months before it and the plans of its 26 member agencies were due to the Department of Water Resources. As a result, the plans are disconnected in fundamental ways. The Water Authority commissioned a study to compare Metropolitan's Urban Water Management Plan with the cumulative total of its 26 member agencies. *(Mr. Cushman submitted a copy of that report for the public record.)*

The report shows significant differences between MWD's plan and those of its member agencies. Mr. Cushman identified five member agencies' plans for local supply development that MWD failed to capture in its 2010 Urban Water Management Plan, including projects by Long Beach, West Basin, Los Angeles and the Water Authority. One example noted was the Water Authority's negotiations to purchase 56,000 acre-feet of water from the Carlsbad Seawater Desalination Plant. When that plant goes online, MWD's water sales will decline by 56,000 acre-feet annually, according to the report.

The Water Authority respectfully requests and recommends that the board produce an update to its Urban Water Management Plan, produce a Long Range Finance Plan, and develop future budgets tied to Metropolitan's long range water sales forecast.

*Mr. Cushman provided printed hard copies of a PowerPoint presentation and a written report to supplement his oral comments on December 12, 2011. Copies of these materials are on file at Metropolitan and available upon request.*

## **Paul D. Jones II, Eastern Municipal Water District (written comments submitted)**

Eastern Municipal Water District (EMWD) aggressively pursues conservation and recycled water use activities in the Western Riverside County. We appreciate the leadership and support of Metropolitan as we move towards greater water efficiency and continued development of local resources.

For many years, EMWD has benefitted from Metropolitan funding for water use efficiency programs, and in 2010/11 fiscal year, EMWD was able to conserve 4,612 acre-feet of water.

Metropolitan's achievements in conservation, recycling and groundwater recharge programs as described in the draft report are commendable. We look forward to collaborating with Metropolitan on implementing its long term conservation plan, and meeting its local resource development goals.

*Mr. Jones provided a written statement for the December 12, 2011 hearing. Copies of the complete written statement are on file at Metropolitan and available upon request.*

## **Celso Barcena III, Hines (a commercial real estate firm, submitted written comments)**

The 10100 Santa Monica building reduced annual water consumption by 330,000 gallons with the "Save Water, Save a Buck" program. "Save Water, Save a Buck" allowed us to implement this critical water conservation measure with minimal capital investment and reduced the payback period to a few months. Programs like this support our commitment to environmental and sustainable practices. Please keep them coming.

*Mr. Barcena provided a written statement for the December 12, 2011 hearing. Copies of the complete written statement are on file at Metropolitan and available upon request.*

# Glossary

**Acre-foot:** The amount of water that would cover one acre of land, one foot deep. An acre-foot is 325,851 gallons. On average, an acre-foot supplies five to seven people in Southern California for one year.

**Bewaterwise.com:** A Web site sponsored by Metropolitan that has extensive information about how to use water more efficiently.

**California Friendly®:** A program that encourages Southern California residents to make their homes California Friendly by using native and drought-tolerant plants, smart irrigation systems and water-wise appliances that meet certain efficiency standards.

**Community Partnering Program:** Metropolitan's Community Partnering Program provides funding for water-related, educational outreach on regional water resources issues, such as conservation, watershed or water quality, educational material for California Friendly garden projects.

**Conjunctive Use:** The storing of imported water in a local aquifer, in conjunction with groundwater, for later retrieval and use.

**Groundwater Recovery:** The extraction and treatment of groundwater making it usable for a variety of applications by removing chemicals and/or high levels of salts.

**HECW (High-efficiency Clothes Washers):** Washing machines that use less water than conventional washers and that are included in Metropolitan's incentive programs.

**HET (High-efficiency Toilet):** Newer generation toilets that on average use about 1.28 gallons per flush, saving about 8,000 gallons per year.

**IRP (Integrated Water Resources Plan):** Metropolitan's plan to ensure reliable water delivery to its member agencies despite population growth, dry spells and droughts. The IRP mix includes water storage, conservation, best management practices, recycling, desalination, and groundwater recovery, among others.

**LRP (Local Resources Program):** Metropolitan's funding mechanism for local recycling and groundwater recovery projects with member agencies.

**Potable/Non-Potable:** Drinkable and non-drinkable water according to California Department of Public Health standards, respectively.

**Replenishment:** When supply and system conditions are favorable, Metropolitan can deliver interruptible water supplies to its member agencies at reduced rates to be used to replenish local groundwater supplies.

**Smart Controllers (Weather-Based Irrigation Controllers):** Smart controllers adjust automatically to current weather conditions, increasing efficiency of irrigation systems.

**Watershed:** Geographical portions of the earth's surface from which water drains or runs off to a single place like a river; also called a drainage area.

# MWD Act

Sections 130.5 and 130.7 of The Metropolitan Water District Act

Added by Statutes of 1999, Chapter 415 (SB 60 (Hayden))

130.5. (a) The Legislature finds and declares all of the following:

(1) The Metropolitan Water District of Southern California reports that conservation provides 7 percent of its “water resource mix” for 1998, and conservation is projected to provide 13 percent of its total water resources by 2020.

Conservation, water recycling, and groundwater recovery combined, provide 12 percent of the district’s total water resources for 1998 and those water resources are projected to increase to 25 percent of the district’s total water resources by 2020.

(2) It is the intent of the Legislature that The Metropolitan Water District of Southern California expand water conservation, water recycling, and groundwater recovery efforts.

(b) The Metropolitan Water District of Southern California shall place increased emphasis on sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures.

(c) The Metropolitan Water District of Southern California shall hold an annual public hearing, which may be held during a regularly scheduled meeting of the Board of Directors of The Metropolitan Water District of Southern California, during which the district shall review its urban water management plan, adopted pursuant to Part 2.6 (commencing with Section 10610) of Division 6 of the Water Code, for adequacy in achieving an increased emphasis on cost-effective conservation, recycling, and groundwater recharge in accordance with this section.

The Board of Directors of The Metropolitan Water District of Southern California may modify any ongoing program as necessary to meet that requirement, consistent with the district’s urban water management plan.

(d) The district shall invite to the hearings knowledgeable persons from the fields of water conservation and sustainability, and shall consider factors of availability, water quality, regional self-sufficiency, benefits for species and environment, the totality of life-cycle costs, including avoided costs, and short- and long-term employment and economic benefits.

(e) On or before February 1, 2001, and on or before each February 1 thereafter, The Metropolitan Water District of Southern California shall prepare and submit to the Legislature a report on its progress in achieving the goals of increased emphasis on cost-effective conservation, recycling, and groundwater recharge in accordance with this section, and any recommendations for actions with regard to policy or budget matters to facilitate the achievement of those goals.

(f) Nothing in this section shall diminish the authority of The Metropolitan Water District of Southern California pursuant to Section 25 or any other provision of this act, or otherwise affect the purposes of The Metropolitan Water District of Southern California as described in existing law.

130.7. (a) The Metropolitan Water District of Southern California, in cooperation with the following entities, shall participate in considering programs of groundwater recharge and replenishment, watershed management, habitat restoration, and environmentally compatible community development utilizing the resource potential of the Los Angeles River, the San Gabriel River, or other southern California rivers, including storm water runoff from these rivers:

(1) Member public agencies whose boundaries include any part of the Los Angeles River, the San Gabriel River, or any other river in southern California.

(2) The Water Replenishment District of Southern California.

(3) Local public water purveyors and other appropriate groundwater entities.

(4) The County of Los Angeles.

(5) The United States Army Corps of Engineers.

(b) Nothing in this section affects the powers and purposes of the Water Replenishment District of Southern California or any other groundwater management entity, the County of Los Angeles, local public water purveyors, or the United States Army Corps of Engineers.

# Metropolitan's Member Agencies



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 14, 1960



Joined Metropolitan  
November 12, 1954



Joined Metropolitan  
February 27, 1931



Joined Metropolitan  
October 16, 1950



Joined Metropolitan  
January 15, 1953



Joined Metropolitan  
February 27, 1931



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
November 26, 1951



Joined Metropolitan  
December 1, 1960



Joined Metropolitan  
February 27, 1931



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
November 26, 1951



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 17, 1946



Joined Metropolitan  
November 12, 1971



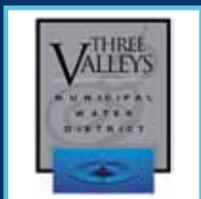
Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 6, 1928



Joined Metropolitan  
December 6, 1928



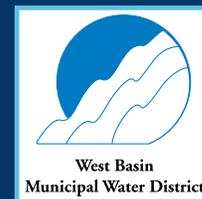
Joined Metropolitan  
November 15, 1950



Joined Metropolitan  
February 27, 1931



Joined Metropolitan  
March 27, 1963



Joined Metropolitan  
July 23, 1948



Joined Metropolitan  
November 12, 1954



THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA

[mwdh2o.com](http://mwdh2o.com)  
[bewaterwise.com](http://bewaterwise.com)